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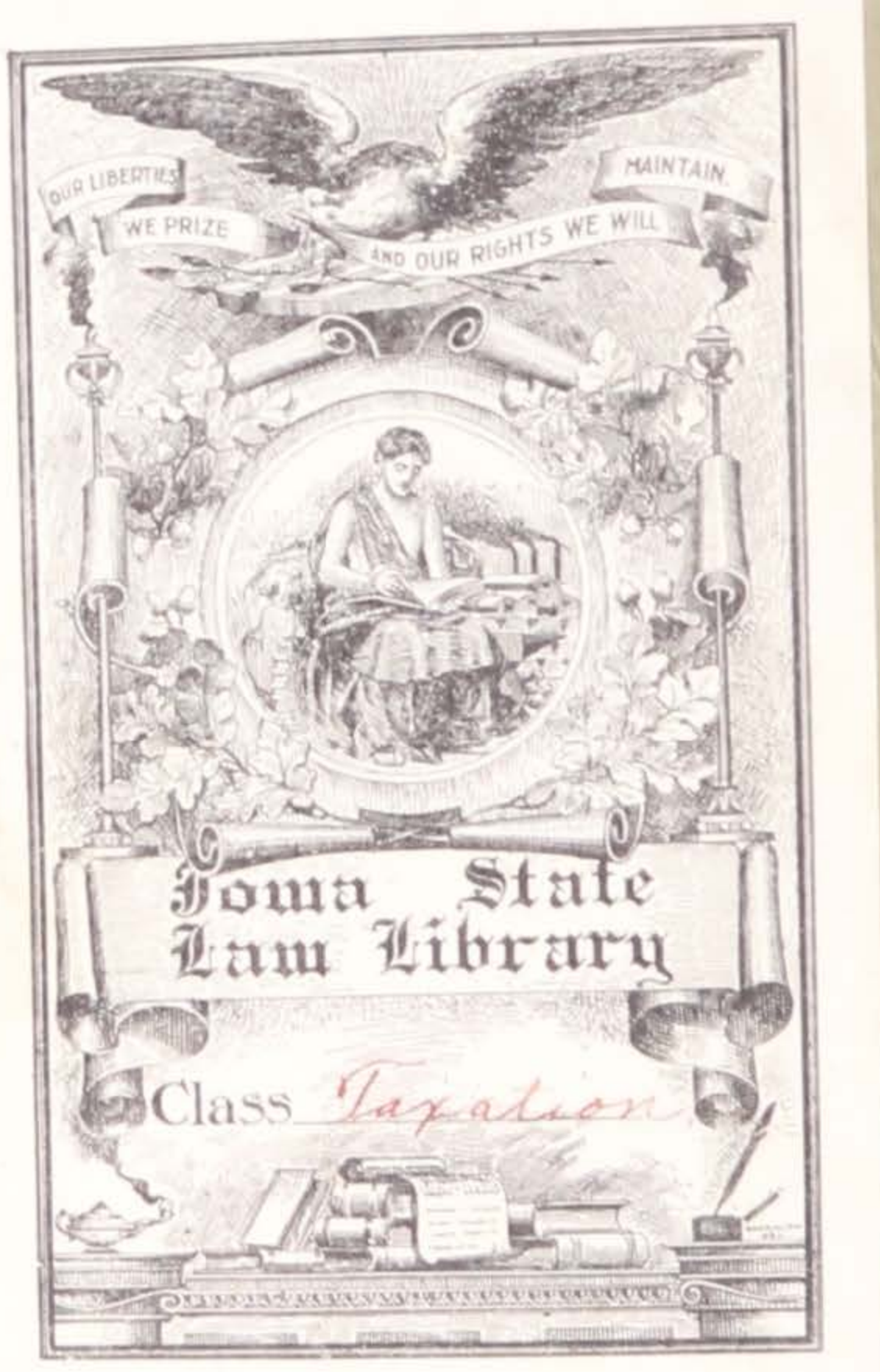

Assessment

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IOWA STUDIES IN BUSINESS

State University of Iowa
College of Commerce

Bureau of Business Research

ASSESSMENT OF REAL ESTATE IN IOWA AND OTHER MID-WESTERN STATES

STUDY X

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S. L. Miller, Director

ASSESSMENT OF REAL ESTATE IN IOWA AND OTHER MID-WESTERN STATES

by

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College of Commerce

State University of Iowa

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FOREWORD

The general property tax, in the form in which it persists in this country, has long been the despair of all students of fiscal science. Deficient in its theoretical basis, faulty in its administration, assailed and condemned on every hand, it has, nevertheless, clung tenaciously to a front rank position in the state and local revenue systems of all the states. The explanation of such remarkable survival ability, although it is a matter well meriting careful consideration and investigation, is beyond the scope of this study. Although many states have succeeded in either eliminating or substantially reducing the state levy on property by introducing various types of replacement taxes, and although movements to effect that end are under way in a number of other states, there is no immediate prospect of any reduction in the importance of the property tax as a source of revenue for local governmental units. It must continue to supply from seventy-five to ninety-five per cent of such revenue needs. Nor, in the opinion of competent observers, is there any likelihood that aggregate state and local expenditures will be materially reduced in the near future.

Therefore, in view of the present outlook, the desirability—indeed, the necessity—of efficient and just administration of the property tax is obvious. As a first step, assessment must be improved, for the tax burden can be distributed fairly only if the assessment of all property is equitable and uniform. Because of the present importance of that problem, this study was undertaken. Although the assessment of personal property, both tangible and intangible, is a subject that presses for consideration, it has been impossible to include it within this investigation, due to lack of adequate data, to complicating factors such as varying exemptions and classifications, and to the inevitable limitations of time, space, and expenditure.

This study has a dual purpose. Effort has been made, first, to investigate both the administration of assessment in Iowa and other mid-western states and the actual assessment conditions which have resulted therefrom; and, second, to bring the findings of such investigation to bear on the problem of improving assessment administration and assessment conditions. The task of selecting the

states to be surveyed, other than Iowa, was not an easy one. In fixing upon Wisconsin, Minnesota, Nebraska, and Indiana, attention was given to geographical proximity, availability of relevant data, similarity of economic setting, and diversity of administrative systems. Illinois would undoubtedly have been included if Prof. Herbert D. Simpson, of the Institute for Economic Research, had not published "The Tax Situation in Illinois," a monograph which deals with that state in a most comprehensive manner.

This study could not have been brought to completion had it not been for the assistance received from many persons, geographically widely scattered. In particular, the authors wish to express their sincere appreciation for information, data, and counsel given unstintingly by the following: Clarence M. Smith, member of the Kansas Tax Commission and President of the National Tax Association; R. A. Miller, Tax Commissioner for the Chicago and Northwestern Railway Co.; Prof. John E. Brindley, of Iowa State College; Charles D. Rosa, member, A. J. Myrland, Legal Counsel, and J. Roy Blough, Statistician, of the Wisconsin Tax Commission; J. G. Armson, member, N. A. Nelson, Secretary, also H. B. Bacon and A. C. Mackey, of the staff of the Minnesota Tax Commission; J. A. Scott, city assessor of Duluth, Minnesota; Harry W. Scott, State Tax Commissioner of Nebraska; Frank Pollard, Tax Agent of the C. B. & Q. Railway Co.; James Showalter, Philip Zoercher, and Pliny H. Wolford, members of the Indiana State Board of Tax Commissioners; and John A. Zangerle, Auditor, and George E. Asling, Deputy Auditor, of Cuyahoga Co., Ohio.

Acknowledgment is also made to Miss Gladys Hamilton, who constructed all the charts, and to Miss Hazel Coutts, who prepared all the tables appearing herein.

Finally, the authors desire to express their great indebtedness to Prof. Sidney L. Miller, Director of the Iowa Bureau of Business Research, for counsel and encouragement given repeatedly during the course of the investigation, and for his labors in editing the entire manuscript.

Richard W. Nelson,
George W. Mitchell.

CHAPTER I

STATISTICAL INTRODUCTION[1]

Over a period of many years various agencies interested in the administration of the general property tax have gathered data upon the sale value and the corresponding assessed value of particular parcels of property. These agencies, whether railroads, state tax commissions, or special investigators, have until recently made but limited use of these data in evaluating assessment efficiency in any given locality. In general, their work has consisted largely of comparisons of assessment levels of various classes of property—of interest to the railroads, and of various localities—of concern to boards of equalization and state tax commissions. This comparison is expressed in the form of a ratio which is found by dividing the total assessed value of a group of properties by the total sale value of the same properties. The result is a weighted assessment ratio which may be compared with similar ratios for other districts or property types. In view of the comparability of provisions for the assessment of realty in the laws of the various states,[2] a relatively constant relationship ought to exist between assessed and sales values.

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[1]This chapter is concerned with questions that arise in the application of basic statistical methods to the analysis of original assessment data. As is characteristic of discussions of methodology, the treatment is somewhat technical, hence of primary interest to the statistician and trained fiscal student. Therefore the reader who is interested, not in methodology, but in the results of the analysis, may conveniently omit this chapter although the subject matter will aid in understanding those portions of subsequent chapters which relate to statistical indices and processes. Should any reader wish to avoid all reference to statistical data and indices, the fundamental facts in the assessment situations in the five states studied may be obtained from the brief summary appearing at the end of each chapter, II to VI, inclusive.

[2]The Iowa Code provides, Section 7109: "All property subject to taxation shall be valued at its actual value . . . In arriving at said actual value the assessor shall take into consideration its productive and earning capacity, if any, past, present, and prospective, its market value, if any, and all other matters that affect the actual value of the property." In Hawkeye Portland Cement Co. vs. Board of Review, 217 NW 837 the terms "actual" and "market" value as employed in the law of taxation were held to mean ordinarily the same thing.

Virtually without exception the assessor is directed to value property at the price it would bring at a voluntary sale. In many statutes his attention is directed particularly to various factors to be considered in fixing assessed value, but these are invariably factors that are reflected in the market price of property. Naturally, there may be a difference of opinion as to the value of a given piece of property: even among those who are, by experience and training, exceptionally fitted to estimate the present value of the future earnings of various properties there will exist some difference of opinion. If the appraisers have ample opportunity to inspect the property this difference will be small in most cases, however, except as the parties concerned are moved by personal bias or by some anticipated consequence of the valuation. The appraisal of residence and mercantile properties by real estate boards for sale purposes is an illustration of efficient expert appraisal.

Yet such values are always subject to change and must be adjusted constantly to allow for trends in the surrounding community. The anticipation of future earnings is a constantly changing and

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The Nebraska Code provides, Section 5820: "All property in this state . . . shall be valued and assessed at its actual value. Actual value as used in this act shall mean its value in the market in the ordinary course of trade."

The Minnesota Code states, Section 1991: "All property shall be assessed at its true and full value in money. In determining such value, the assessor shall not adopt a lower or different standard of value because the same is to serve as a basis for taxation, nor shall he adopt as a criterion of value the price for which the said property would sell at auction or at a forced sale, or in the aggregate with all the property in the town or district, but he shall value each article or description of property by itself and at such sum or price as he believes the same to be fairly worth in money." Section 1992 states: "It shall be the duty of every assessor or board in determining the value of lands for the purpose of taxation and in fixing the assessed value thereof to consider and give due weight to every element and factor affecting the market value thereof . . ."

Indiana Code, Section 14181: "Lands and the improvements and buildings thereon or affixed thereto shall be valued at their full true cash value, estimated at the price they would bring at a fair, voluntary, private sale, not a forced sheriff's sale, taking into consideration the fertility of the soil, the vicinity of the same to railroads . . . with any other local advantages of situation."

Wisconsin Code 70.32 (1): "Real property shall be valued by the assessor from actual view or from the best information that the assessor can practically obtain at the full value which could ordinarily be obtained therefor at private sale."

extremely sensitive element in market price. It is influenced by the present earnings of the property, general business conditions in the locality, by changes in the price level, by the general temper and spirit of the community and the times. During a boom such as was experienced in Florida in 1926 the anticipation of future development exceeded all reasonable limits, due in some measure, perhaps, to large numbers of "sucker" sales, but even more to an uncontrollable spirit of optimism prevalent throughout that entire section. Without doubt many who normally might be expected to render sober and intelligent judgments as to the worth of property became obsessed by a belief in the continuation of meteoric advances in property values.

This is an illustration on a large scale of what is very often the case in small areas when the expectation of a new development will send near-by property values skyrocketing. The need for constant revision on the part of buyers and sellers of real estate of their opinions of the worth of any particular piece of property is an important fact to keep in mind when considering the relationship between assessed and sale value.[1] Since the assessor establishes a value which is to remain fixed for at least a year, and in most cases two or more years, the degree of conformance to market value is at least limited to the extent to which market values are changing.

A statement of the method of determining the assessment ratio makes this determination seem simple—a mere mathematical computation. Careful scrutiny and judgment are essential, however, to prevent the inclusion of transactions which are unrepresentative. In any investigation into the relationship of sales to assessed values it is immediately apparent that the nature of certain transfers calls for their elimination. Family transfers, forced sales, and trades are familiar types that are excluded wherever found. Certain other transfers, not so easy to identify by inspection of the records, are "sucker" sales. It is a fundamental characteristic of our economic system that the opinions and decisions which result in economic activity are not necessarily those of the best informed and

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[1]There may be some question as to the use of the phrase "present value of anticipated future earnings" as synonymous with market value since certain properties, notably residences, do not have any earnings except as they may be measured by rental returns of similar properties, the pride of ownership, and certain other intangible values that are only roughly convertible into dollars and cents.

fects. Yet that perspective is important when considering the validity of criticism disparaging the use of sales data to test assessments because they are subject to certain minor defects, to wit; some reported sales are for cash, others involve a financial charge; some include the agent's commission, others do not; while other transfers suggest minor individual errors of valuation or are affected by necessity.

John A. Zangerle, auditor of Cuyahoga County, Ohio, one of the most vigorous critics of the sales data method of approach, has pointed out a number of minor considerations that, to such extent as and wherever they are applicable, tend to lessen the reliability of sales considerations as measures of "true" value.[1] However, most of the obstacles which he suggests represent inevitable limitations of the ad valorem method of assessment or are of such a nature that they may be overcome by a capable, alert assessor.

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[1]In a letter to the author, dated April 8, 1930, Mr. Zangerle says, in part: "We have the item of sidewalks, driveways, shrubbery, small summer houses, gateways, etc., which are rarely assessed yet they are considered by the vendor in selling and the vendee in buying.

"Another item, suppose it is really intended to appraise on the basis of reproduction and suppose four identical residences are erected, one by a cheap contractor, a better by a better contractor, both of them operating without the services of an architect, the third one building through the aid of an ordinary architect and the fourth by a high grade architect and high grade contractor. Here we have the identical houses so far as it is outwardly visible and erected at a cost which may run at $10,000, $12,000, $14,000, and $15,000, an average of $12,750. Suppose then, in the effort to value this property not on a cost basis but on a reproduction basis, we take $12,750 as being the average cost. We then have two houses that are under-appraised whose owners in all probability will not complain about their valuation, but we would have, on the other hand, two houses that are constructed at a cost in excess of the average cost of reproduction. If then, there should be 100,000 residences appraised on this basis, viz., cost of reproduction, we would have 50,000 over-appraised buildings and 50,000 under-appraised buildings. These appraisals would be made regardless of the condition of maintenance of all which adds immensely to the complexity of the situation.

"For example, we find in a cost of $13,500 model home in Cleveland these items which may be included in the first instance in the cost of the building, or may be installed subsequent to the assessment and yet not noticeable upon any subsequent inspection, to wit: weather stripping $70.00, grade, seeding and drive $254.00, construction finance $210.00, architect's fee $950 (7%), shrubbery $35.00, foot walks $92.00, interest $150.00. In the mean time the floors have been scraped at a cost of $75.00. The house may have been decorated at a cost of $500.00. Electric fixtures may be

Within certain narrow limits one judgment is as good as another since true value cannot be determined precisely, and the zone of tolerance to which reference has been made is one of the criteria that must be considered in evaluating assessment efficiency.

The exact limits of such a zone are obviously arbitrary and in the present instance are completely *a posteriori*, following from the work of other investigators as well as the results obtained here. Furthermore, the width of this zone varies with the type of property. It is only reasonable to expect, for example, that the assessed and sale values of relatively homogeneous Iowa farm property should bear a more constant relation than that existing in the case of city property or even that for heterogeneous rural property.

When due weight is given to all elements of strength and weakness, the conclusion seems justified that sales data furnish in most cases an adequate standard by which to measure assessment equality. However, it would be too much to claim that sales data are perfectly adapted to this purpose. More appropriate and reliable in many respects are appraisal values, particularly those appraisals made by competent and unbiased investigators. Expert appraisal eliminates many of the objections against sales data but it is, in turn, subject to one important qualification: it must be honestly done by men trained and experienced in the valuation of real estate. The valuation of improvements may be reduced in large measure to a mechanical, non-discretionary basis

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installed. In some cities the assessor assesses according to good, fair, or poor condition. After one month the appraisals are made, the property may be put in good condition, especially if about to be placed on the market.

"Another reason why the assessment will not always coincide with the private appraisal is the fact that in the interim between the time of the assessment and the time of the sale, special public improvements are constructed to serve the property. In a large city such as Cleveland with the hundreds of developments going on continually in the way of sewer, water, paving, curbing, sidewalks, any one of which may be installed within the period of a few days, it must of necessity be true that the assessment of thousands of lots made as of a fixed day, perhaps in the spring, must be entirely out of line with their subsequent transaction value after the construction of the public improvement.

"Another reason why the cost of houses is not extended is that one is erected and sold on an extensive financing plan involved in securing second mortgage money. According to a survey made in Chicago in 1925, it was found that the cost of second mortgages involved a commission of 15.6%

but the determination of site values is a matter calling for the exercise of a very considerable amount of judgment.

There are three samples of reassessment data presented in this study. In two of these cases there are sales data samples for approximately the same universe of property. In St. Cloud, Minnesota, the sales data are for business and residence properties together and the reassessment data are for business properties only. In Des Moines, the sales data are for residence and business properties together while there are two reassessment samples, one for each type of property. The third reassessment sample is of rural property in Haycreek Township, Goodhue County, Minnesota; unfortunately no sales data covering this area were available.

It is evident that in any case in which sales data gives a substantially different picture of an assessment situation than that obtained from comparable appraisal data, the reliability of one or possibly both methods of approach must be questioned. On the other hand, it is equally apparent that a close correspondence of the two gives reasonable assurance of the dependability of the sales data and of the expertness of the appraiser. Hence, unusual interest attaches to the results secured from analysis of the data in Des Moines and St. Cloud.

A summary of the results of statistical analysis of all Des Moines data is given on page 46. Despite the fact that the sales data are for 1927 and the reassessment and appraisal data for 1929, and that the two samples are not completely comparable in that the

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on homes, 11% on apartments, and average of 11.7% as to all classifications. So that if a person built and bought a house and lot for cash it would involve a disparity from 10% to 15% less than if he had borrowed the funds or bought from one who had borrowed the funds.

"Another reason why the cost of houses cannot be accepted as the basis for a valuation or as a basis of assessment is that it costs a builder a different sum of money from what it costs the final purchaser. The builder may erect a building perhaps without an architect. The cost to him is the bare cost without architect, without profit, without a real estate commission. The cost to his immediate vendee includes, of course, these items and includes furthermore the cost of financing. We have, then, not only the variation in the cost of the house to contend with, varying sometimes 25%, but we have also the variation in the cost to the builder and the cost to the ultimate buyer. This may involve a variation of 20% to 40% and is one very important reason why an assessor must appraise to cover the varying kinds of cases rather than to get the last dollar in the last transaction to the ultimate buyer."

It is the opinion of the authors that some of these objections are not

sales data cover undefined types of property, a remarkably close correspondence of results is to be observed. Average assessment ratios, percentage deviations, range, amount and type of skewness, —all these measures as obtained from the sales data indicate an assessment situation that varies but slightly from that obtained from a like analysis of the appraisal data.

A similar comparison of results for St. Cloud is given on page 98. Here, again, in spite of a two-year disparity in time and a variation in the types of property as between the two groups of data, the results are highly comparable. The lack of correspondence between the average assessment ratios is without signifiance because of the fact that the reassessment was intentionally made at a level that would not materially change the total assessed valuation of property in the district. The other measures of the situation obtained from the reassessment data are in substantial agreement with those derived from the sales data.

In both cities, then, the two measures of true property values, sales figures and expert appraisals, ascertained quite independently, give strikingly similar results and hence are mutually supporting. Although these two cases afford a rather narrow basis for judgment, in the absence of any contrary evidence they must be accepted as constituting strong presumptive support for confidence

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altogether valid. It may be true that sidewalks, etc., are seldom considered in making an assessment; nevertheless, there is no reason why such items should not be recognized and appraised as accurately by a competent assessor as by the vendee of the property. The example of the four residences is pertinent only if the four are actually identical, yet Mr. Zangerle's statement indicates that they are not identical except in a superficial fashion. If the employment of a better contractor and a more skilled architect does not result in the erection of a dwelling which is in many ways superior to one constructed without such expert assistance, then evidently such additional outlays are unjustified and ought not influence any "value"—be it sale price or assessment. Surely such is not the case.

An adequate estimate of reproduction cost must be something more than a computation of cubic content. It is precisely the task of the assessor to secure full, accurate information covering cost and construction minutiae as, indeed, is done by Mr. Zangerle in the city of Cleveland. Again, if a house is not completed on the date of its first assessment, but is subsequently completed and sold, it would normally have a sale value in excess of the assessed value. It does not follow from this that the first assessment was in error; rather, being acquainted with these circumstances, the assessor should find the sale value a useful guide in making the next assessment. The practical worth of sales data depends not so much on pointing out to the assessor his past mistakes as in assisting and directing him in connection with future appraisals.

in the reliability and representative nature of properly selected sales data as indices of assessment conditions.

It has already been suggested that the principal use to which various indicia of market value have been put in connection with assessed values is in determining the average level of assessment in any given locality or for a particular type of property. The ratio obtained by dividing the assessed by the sale or appraised value is termed the assessment ratio. Averages obtained from an adequate sample of such ratios in a given community measure the average level of assessment in that district. However, it is usually true that each piece of property is in several taxing districts and these are not all coterminous. In consequence, the property may be below the average level in one district and above in another, thus evading a portion of its proper tax burden in one jurisdiction and paying more than its share in another. To illustrate, a property may lie in the city of Des Moines, Lee township, Polk county of the State of Iowa. Unless the assessment level is substantially the same in these four areas, this property appears in four different positions with respect to uniformity or the average level of assessment. A change in the assessment to secure uniformity in one tax district may magnify its difference in another and thus cause wider dispersion. Inasmuch as the levy for some of these districts is heavier than that for others, the significance of non-uniformity is more important in some cases than in others. No data have been uncovered that are classified in sufficient detail to make it possible to discover the difference in the level in separate jurisdictions covering, in part at least, the same territory. There is, however, sufficient evidence to justify the presumption that the difference in the level is not very large so long as the property is in a single administrative assessment district. It is reasonably certain that a county level will depart much farther from its state level than a township level from its county level. Further, the correspondence between the county and township levels will probably be closer in localities having a county assessor than where only local assessors serve.

The relation between the rural property level and the city property level is influenced by the factor of non-homogeneity which tends to spread these levels apart even though the assessment is made under centralized authority. The more types of property there are to be assessed, the more difficult it is to obtain a uniform assessment and, in so far as special types are peculiar to certain

sub-taxing districts, the level in these districts will tend to depart from the level set in the territory as a whole. In this study the county has been considered as the jurisdictional unit for rural property and the city or village for residence and business properties. It would have been desirable, perhaps, to make a more intensive investigation into the relationships among the various levels of assessment for given properties, but the burden of gathering data for such an undertaking was too great for this study.

The average level of assessment is not the only or even the most important fact to be ascertained by analysis of samples of assessment ratios. It is more significant to know something of the dispersion about the mean: in short, to summarize the extent of individual inequalities. The effect of our assessment system on the individual tax payer is of especial concern and a consideration of the average level of assessment is not sufficient for this purpose. There are, however, other ways in which this may be determined. One is by reference to a rectangular frequency diagram such as Chart IV. In these diagrams the assessment ratios are grouped in intervals of 5, i. e. 1-5, 6-10, etc. and plotted on the horizontal scale; the frequencies, or the number of times that ratios appear in a given interval, are expressed in percentages of total frequency on the vertical scale. This gives an accurate picture of the range of the ratios and the manner in which they fall about their average. These charts, or the tables on which they are based, however, are not adapted to concise summary statement, hence do not facilitate comparisons between different districts. For summary purposes the most useful measure is the coefficient of the average deviation. This is obtained by taking the total of the differences between each assessment ratio and the average of all of them (signs are disregarded) and dividing this total by the number of ratios. This result is then expressed in a percentage of the average from which it was measured. It is quite obvious that if most of the ratios lie close to the mean this coefficient will be relatively small and will increase as the dispersion about the mean becomes greater.

While this measure of the lack of uniformity is principally used in this study, attention should be called to certain aids in describing a given situation. The range from the highest to the lowest ratio indicates the maximum inequality as shown by that sample. A somewhat more conservative statement of this may be

had by eliminating 5 per cent of the total frequencies on each end of the distribution and taking the range of the middle 90 per cent. Thus extremes due to imperfections or vagaries of the data will be eliminated.

In computing the coefficient of the average deviation the deviations on both sides of the mean were added, and, while it is true that the sums of the deviations on both sides of the mean are equal, it is not necessarily true that the averages on both sides are the same. As a matter of fact, it is rather consistently the case that the average deviation above the mean is larger than that below it. This characteristic of certain distributions has long been recognized by statisticians and the term "skew" has been applied to it. Thus, if the average deviation above the mean is larger than that below, the distribution is said to be positively skewed and if the situation is reversed it is negatively skewed. Positive skewness is so common a phenomenon that certain theoretical frequency functions have been derived which may be fitted to distributions of this nature. Most important of these is Pearson's Type III curve and the so-called log normal. If one were seeking the theoretical function that would come nearest to fitting the typical assessment distribution it would probably be one of these.

To determine, however, the extent to which a curve tends to skew involves no such complex calculation as does fitting a frequency curve of the type suggested above. The difference between the mean and the mode, divided by the standard deviation, is one way of expressing it; or, better yet, in these distributions which are rather irregular and consequently may give undue weight to extreme items in the calculation of the standard deviation, the following formula is appropriate: first quartile plus the third quartile minus twice the median divided by the difference between the third and the first quartile. Considering the purpose of this study and the nature of the data it has not seemed worth while to present the results of any of these supplementary methods of describing grouped data. It is sufficient to know that distributions of assessment ratios tend toward positive skewness: that the ratios spread out farther above their mean than below it. This fact may be reasonably inferred to be due in part, perhaps, to the tendency for the errors in estimates of value to be in terms of reciprocal ratios; i. e. that the probability of a 200 per cent valuation is equal to that of a 50 per cent valuation. This is more likely

to be true in the case of the extreme ratios where the error in the estimate is large. A much more important and discernible cause of skewness in these distributions is the tendency to assess properties of high value at a lower proportion of actual worth than low-valued properties; or, in short, the tendency for assessment ratios to decline as the value of the property increases. When we consider a dollar's worth of property as a unit, regression will almost always occasion skewness; considering the transfer as a unit, skewness will not necessarily be concomitant with regression, though such is more likely than not to be the case.

To return to the coefficient of the average deviation, the special interpretation that may be placed upon it in connection with assessment ratios justifies mention. It has been noted by other investigators[1] that one-half of the coefficient of the average deviation, when weighted by sale values, is the percentage of the total assessed value that is improperly charged to the properties in a given area; hence, in terms of levy, the percentage of the tax that has been misplaced.

It is quite obvious that this is the case, since the coefficient represents the average of the percentage deviations above and below the mean and since what is taken away from the over-assessed must be given to the under-assessed: the total deviation may be regarded as a percentage of the total amount of property not assessed at all and assessed at double its value. Or, it may be easier to think of the complement of the coefficient of average deviation as the percentage of the total property perfectly assessed. This presentation of the situation is somewhat unconventional but appears to have a definite meaning in this special case and hence gives additional significance to the coefficient.[2]

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[1]See "*A Study in the Ratios of Assessed Values to Sale Values of Real Property in Oregon*" W. H. Dreesen, Agricultural Experiment Station, Oregon State Agricultural College, Corvallis, Oregon, June, 1928.

[2]The reason that it does have a definite meaning is that we are dealing with the average deviation coefficient of ratios of assessed to sale value. If, in the calculation of this coefficient, we have used sale values as weights, then this coefficient and its complement have the above indicated relationship to the total assessed value. The extent to which this condition obtains when unweighted measures are employed depends upon the relation of the sample to its universe. What has been said above assumes that we are dealing with a universe of properties; however, in a relatively small sample the unweighted measures of the assessment level and average deviation coefficient may give a closer approximation to the weighted measures

What has been said previously pertaining to the different assessment areas within which a particular property lies should be recalled in discussing the coefficient of the average deviation. Thus, property in a given area may be identified with a certain coefficient in connection with the state levy, with a different one in connection with the county levy, and still others in the cases of other local levies. When the coefficient is used to express the amount of tax misplaced, it is important to remember that, unless the corresponding coefficient and levy are used, the result is approximate within the range of difference between the coefficient used and the one that should have been used.

Inasmuch as administrative assessment districts are not necessarily identical with districts to which a given levy applies, a large coefficient does not necessarily indict individual assessors but rather the entire administrative system. It would be possible for a local assessor to assess the property in his district with a minimum of deviation from uniformity and yet, when his assessments are combined with those of other local officials assessing adjacent districts, the resulting aggregate assessment would be characterized by considerable departure from uniformity. The larger the area in which a uniform assessment policy prevails the less likely it is that cases of this nature will arise.

Frequent reference will be made in this study to assessment ratios and percentage deviations on a value or a number basis. The distinction between the assumptions underlying these two bases is well worth noting. In other connections it is frequently spoken of as the difference between a ratio of aggregates and an average of ratios, or between a weighted and an unweighted measure. In this instance it is the difference between considering each dollar's worth of property as a unit or each parcel of property as a unit. Thus the average assessment ratio for a given city on the value basis is the total assessed value for all properties divided by the total of the corresponding sale or appraised values; and the same average on a number basis is the sum of the individual ratios of assessed to sale or appraised value of each parcel of property divided by the number of such parcels. In the case of the percentage deviation, the value basis requires that each deviation from the average be weighted by the sale or appraised value related to it and that

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of the universe than do the weighted measures of the sample. At best, any measure derived from the sample is an estimate of the true values which can only be obtained if all the property in a given district is analyzed.

the total of all such weighted deviations be divided by the total sale or appraised value. On the other hand the number basis requires that each deviation be treated as of equal importance, hence that their sum be divided by the number of properties considered. Throughout this study calculations have been made upon both of these bases. In some cases the results are quite different, but, on the whole, the differences are so small as to be negligible.

What can be said of the relative merit of these two methods of attaching the problem of measuring the level of assessment and average percentage deviation? In the first place, if there were at hand a complete universe of the data under investigation, that is, assessed and appraised or sale values for all properties in the community being investigated, there would be no question as to which basis should be adopted: the value basis would conform to specifications perfectly. Unfortunately, there are no statistical universes with which to work; reliance must be put upon more or less adequate samples of these universes—more or less adequate depending upon the point of view from which their adequacy is being considered. Because of the difference in the method of obtaining samples of sales data and of expert appraisal or reassessment data, the nature of each will be discussed separately.

Sales data samples are subject to a purely automatic selection in so far as they must consist only of values for those properties that have been exchanged in the given period. As suggested previously, many transfers must be discarded because they represent trades, intra-family or forced sales, or are subject to some bias evident from an inspection of the records. Failure to ascertain the consideration in connection with a given sale is probably the most frequent obstacle to the inclusion of transfers. This is especially the case since the federal stamp tax, proportionate to the sale consideration, has been removed. It is not necessary, however, to rely entirely on the deed records for this information, since facts may often be obtained readily by special investigators and field men from one of the parties to the transaction.

What is the net influence of these selective factors on the sample? Considered from the standpoint of affording representative ratios of assessed to sale values, they do not seem to result in any significant bias. There is no reason to believe that people generally will refuse to reveal the price at which properties change hands because of the possible bearing of this price upon assessed value: those who refuse are quite as likely to want to show a high assessment ratio

as a low one. Though there may be individual cases where bias exists, in a sample of any size such biases are unlikely to be important.

The problem of computing measures on a value or a number basis is connected with viewing the sample from two different standpoints: does it give a true picture of the division of all properties in the assessment area as among the different value classes, and are the ratios of the items in these value classes to be regarded as typical of property in that price class? In general, the samples pass inspection from these two viewpoints but there are some very important qualifications. The extremely high and low values in many samples give a non-representative picture of the importance of the value class they represent and sometimes of the ratios typical of that class.

As an example of this may be offered the sample for Marion, Grant County, Indiana, summarized in Chart XX and Table 119 of the Appendix. Here appears one transfer with an assessment ratio of 96 making up 18 per cent of the total frequency on a value basis. There is no doubt that such a transfer should be included in the sample but to give it weight from 10 to 20 times that of other items does not seem wise. Yet such is the effect when the calculation is made upon a value basis. It may be suggested that the number basis should be used wherever large values seem to distort the picture. But the number basis also has its short-comings; we find in the same city that the extreme ratios both at the bottom and the top of the distribution are for low-valued properties. It is usually true that there are many more low-valued properties with abnormally high assessment ratios than with abnormally low ratios, but the point to bear in mind is that properties of low value are least equitably assessed. Now it probably is not true that the total value of the properties contained in these low-value classes constitutes as large a proportion of the total as is suggested by the relative number of them in the samples, hence if there is a marked tendency to assess small valued properties poorly (as there undoubtedly is) the influence of such improper assessment will be given undue weight by a measure of assessment efficiency computed upon the number basis. This tendency toward overstatement of the percentage deviation when a number basis is employed is paralleled by a tendency toward understatement when the calculation is placed on a value basis. The reason for this is that the

large values are important by virtue of their size in determining the mean, hence their deviation from it cannot be very large.

In addition, there is a tendency for medium-priced and higher valued properties to be assessed somewhat more uniformly. Of the high-valued properties it is difficult to speak with assurance, for in many samples there are none, in others but one; while in some there appears a tendency to assess them less uniformly than medium-priced properties, though more uniformly than low-priced properties.

These statements relative to the nature and validity of measures computed on the number and value basis are not of equal applicability in the case of samples based upon reassessment data. The superior character of competently prepared reassessment samples entitles the value basis to more favorable consideration. However, the reassessment must be of a high character—not only must the property be assessed in a competent, unbiased manner, but also the sample must be sufficiently large and selected with such care as to insure an accurate representation of the universe from the various points of view suggested above.

To summarize, the best estimate of percentage deviation for almost all of the samples presented here probably lies between that computed on the value basis and that taken on the number basis. In the majority of cases this will give a reasonably precise approximation. In those instances where the two methods give rather widely divergent results the average of the two will be the most reasonable compromise, although in some cases the shortcomings of one or the other will appear so serious as to invalidate in large measure an average and induce almost complete reliance on the other. A close inspection of the percentage frequencies on the value and number basis will usually disclose the evidence needed to make such a choice.

There is infrequent exception to the rule that the value mean is lower than the number mean. This relationship exists wherever there is a tendency toward regression and may be regarded in the case of city and village property, within the limitation imposed by the reliability of the sample, as unimpeachable evidence thereof. This obviously follows from the statement of the method of computing the number and value mean. However, in the case of rural property it does not necessarily follow that a value mean less than the number mean indicates regressivity, since regression

is measured with respect to price per acre which does not bear a fixed relation to the total sale value.

In connection with a discussion of the nature of weighted and unweighted means and coefficients, some comment should be made upon the method of obtaining state averages. There has been no effort to compute a mean or coefficient for all types of property, i. e., rural, village and city properties taken together; rather, unweighted measures for each type are separately presented. It would be desirable, perhaps, to have the data so classified that averages might be computed for other types of property in addition to those mentioned above. The possibilities that would be opened by securing more complete and comprehensive data have already been suggested. It seems, however, that the classification adopted here from necessity is the most significant single one. It is related to major differences in tax levies; it takes care of the principal types of property to be assessed; and in many cases it is coterminous with the administrative assessment district. It will be noted that no single figure is presented to typify the condition of the assessment of all property in the state as a whole. An average on so broad a basis is likely to obscure more than it reveals and, since it does not appreciably condense the facts to be presented, is not used.

The state averages for the three types of property are simple averages of the results obtained in the several districts sampled. No readily available system of weighting was considered of sufficient value in this connection to warrant its employment. It has frequently been the case that state averages have been computed by simply combining the original data into one state-wide sample. The effect of this is, of course, to weight each district by the size of its sample, to which there is no objection if the samples are proportional to the importance of the district they represent and all districts are represented. In this study no such cases existed, hence the unweighted measures were used throughout for state figures. Of course, as has been suggested above, these figures represent the average situation with respect to county, city, and village levies which is not necessarily the same as the situation with respect to the state levy.

There has been some reference in this chapter to the regressive character of the general property tax. The terms proportional, progressive, and regressive are commonly used in fiscal literature to indicate the way in which the burden of a given tax is distributed

over its entire base. If the tax rate is constant irrespective of the size of the base, it is a proportional tax; if the rate increases as the base increases, it is a progressive tax; and if the rate decreases as the base increases, it is a regressive tax. Since most state codes provide that all real estate in a given tax jurisdiction shall be taxed uniformly; i. e., that a uniform levy per dollar of assessed value shall be made, it is obviously the intent of these codes to provide for a proportional levy. The administration of the law, however, is frequently responsible for divergence between principle and practice. Wherever there can be shown to exist a persistent tendency to assess properties of higher value at a smaller proportion of their true value than properties of lesser value, the base increases, not in its true proportion, but at a diminishing rate and the effect is comparable to decreasing the rate as the base increases—the nominally proportional rate becomes regressive in fact. Many of the jurisdictions investigated in this study show regressivity in varying degrees; in many others taxes are in effect what they are in intent; but few, if any, show any appreciable tendency toward progressivity. It should be remembered that inequalities in assessment are in themselves not enough to make the tax either progressive or regressive, as such inequalities may be altogether random or haphazard in their relation to the value of property.

The technique employed to test a given sample for regression consisted in cross-classifying city and village properties by their size and rural properties by their price per acre[1] with the corresponding assessment ratio. The data so classified were put in the form of a scatter diagram (see page 73). When the scales are so arranged that they begin at the upper left hand corner of the diagram and range to higher ratios to the right and higher values

[1]The price per acre is taken as the unit of sale and assessment in the case of rural properties in the areas covered by this study, the reason for this being that the value of farm land is customarily so measured. A large total consideration may be for relatively low-priced land and hence will usually show a relatively high assessment ratio. In the same way a transfer involving a small total consideration may be for a few acres of high priced land and the assessment ratio will accordingly tend to be low. For purposes of experiment, in a few samples the property was classified on a total value as well as on the price per acre basis. The usual result when the former method was employed was to obscure the more definite and consistent tendencies portrayed in the results obtained from the use of the latter method.

downward, the regression is measured by the tendency for the frequencies to group themselves about a diagonal from the vicinity of the lower left hand corner to the vicinity of the upper right hand corner. This tendency may be readily summarized by finding the average assessment ratio in each value class and noting the manner in which the average ratio changes over the entire range of value classes.

The possibility of using a coefficient of correlation to measure tax regression provides an interesting application of this method of treatment to the assessment situation. The frequent occurrence of curvelinear correlation and the well defined tendency to different types of regression promises fruitful results for investigation carried out along this line. For such a purpose, however, larger and more complete samples than most of those available for this study are necessary. It is doubtful if any sales data sample will give sufficient range in value classes to make possible a complete study of regression along this line. While our data enable us to make possible reasonably accurate estimates of the typical means in the low and medium-priced value classes, they make possible but an indifferent estimate for larger values; indeed, in many cases fall far short of exploring the extreme upper limit. This is obviously less true in the case of rural property than of city property. Expert reassessment samples would remedy this defect in large measure. Despite the fact that the range of value classes is limited, it seldom is so narrow that the highest class midpoint is less than five times the smallest.

Special attention is directed to one additional fact revealed by the scatter diagrams. Properties of lowest value not only have the highest average ratio but also have the largest average deviation. The typical diagram shows the greatest scattering of frequencies in low-price ranges. The scatter diminishes as the value classes increase, to a minimum in the upper medium price range. The evidence available is inconclusive as to precisely what happens in the higher price classes; in some instances the deviation increases somewhat, in others it remains about the same as that of medium-price properties or even falls below this usual minimum point.

The assessment data discussed thus far have been for a particular year. Additional light is thrown on the nature of the operation of the general property tax by the analysis of historical assessment data. In this study such material consists of a sales data sample

for rural properties for each of a series of years; in one instance the period is twelve years, in the other twenty-one. Each year is analyzed separately with respect to the level and the uniformity of assessment, and the results are compared. They indicate the existence of two fairly well defined tendencies: one is a fluctuation of the coefficient which seems to follow a rather irregular cyclical movement; the other is the constantly shifting level of assessment—not an aimless and erratic change but a steady, consistent movement for four or five years upward, then a turn and the same type of a movement downward. The falling assessment ratio indicates in general rising sale values, since the assessed values change slowly and by small degree; conversely a rising ratio typically indicates falling sale values. The vitiating effect of this characteristic change must not be overlooked when data extending over a period of years are used as a sample and purport to measure the assessment situation. The best period to employ is one year, but where the interval between assessments is longer it will not seriously distort the situation to use two or three years. This does not mean that the assessment interval should be the governing factor in the selection of a period; rather, it is the frequency of levying and collecting the tax that is determining. Since any assessment situation is always with reference to a certain levy, any change of the period and area covered by the levy necessitates a change in the data used to described it. Combining several years may not in fact seriously affect the results obtained, but theoretically it is indefensible unless there has been no change in sale or assessed values in the interval, a condition that seldom if ever exists. In the case of one sample, that for Duluth, Minnesota, assessment data for a period of ten years are grouped together and as a result the coefficient of the average deviation is undoubtedly much higher than it would be if the data were for a one or two-year period. From some fragmentary material for Duluth, it appears that the coefficient for any given year would range between 11 per cent and 14 per cent.

CHAPTER II

STATE OF IOWA

The Assessment System

Prior to the enactment of the tax legislation by the Forty-third General Assembly, in 1929, Iowa was an excellent example of a state having well-nigh complete fiscal decentralization. Since all the statistical data included in this chapter are for years prior to 1929, it will be well to give an outline of the assessment system of the state as it then existed, followed by a statement of recent changes.

From 1858 to the present time, the township and the municipal corporation have been the basic assessment units for administrative purposes and the elected local assessor has been the assessment official of original jurisdiction.[1]

There are 2,354 assessment districts in Iowa and therefore the same number of local assessors. The term of office is two years, and the compensation is fixed by law at four dollars per day for the time actually devoted to the duties of the office. No definite information has been obtainable as to the rate of turnover in office, but common observation indicates that the majority of assessors serve for more than one term. There are no qualifications for office other than the candidate must be a resident elector of the district. City and town assessors may be granted the aid of such deputies as the council may see fit to authorize; no legal provision is made for township deputies.

The assessor enters upon the duties of his office immediately after the second Monday in January and must complete the assessment rolls by the first day of April. Legal provision is made for a meeting of all assessors in each county with the Auditor of the county on some day between the third and thirteenth days of January. At this time the assessors are furnished with necessary blanks and materials and receive from the Auditor such instructions, advice, and admonitions as he may see fit to give them. There is little reason, however, to believe that the Auditor is any better qualified

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[1]An excellent historical account of the development of the Iowa assessment system is available in "The History of Taxation in Iowa," 2 vols. by John E. Brindley.

to give advice in this connection than are the assessors whom he is counselling.[1]

All property other than real estate is subject to annual assessment; realty is assessed biennially in odd-numbered years. Iowa is one of the few states that makes legal provision for assessing property on a basis other than actual value. This provision is found in section 7109 of the Iowa Code, and reads:

"All property subject to taxation shall be valued at its actual value which shall be entered opposite each item, and, except as otherwise provided, shall be assessed at 25 per cent of such actual value.

"Such assessed value shall be taken and considered as the taxable value of such property upon which the levy shall be made."

The net effects of this particular arithmetical exercise would seem to be merely to increase all millage levies four-fold and to render more difficult the formation of judgments as to the equitableness of individual assessments. Moneys and credits, which are subject to separate classification and a low millage levy, are the only type of property to which this 25 per cent rule does not apply. Throughout this chapter the term "assessed value" will be used to indicate the "actual value" as fixed by the assessor rather than the one-fourth of such figure, which is, in accordance with the terminology of the law, the true "assessed value."

All Iowa property is subject to assessment by local assessors except specified public utility properties that are assessed by the State Executive Council in accordance with the unit rule. This special group includes telegraph and telephone companies, railway companies, freight line and equipment companies, express companies, and electric transmission lines located outside of cities and villages.

For each assessment district there is a local board of review consisting of the board of township trustees for each township and the council for each city and town. These bodies are required to meet on the first Monday in April and sit as boards of review until their duties are completed, not later than the first day of May. The clear intent of the law is that these bodies shall serve as "boards of review" in a very literal sense rather than merely as

[1]Section 7115 of the Iowa Code contains three "model" forms for use by the local assessor and states that "rolls and books shall be substantially in the following form." In practice all assessment blanks are prepared annually by the Auditor of State, and have been subjected to but minor revisions during recent years.

appellate boards. This is apparent from the language of Section 7130:

"At such meetings it shall be the duty of the assessor to read each and every tax payer's name and assessment on the assessment rolls, and, if the assessment is approved, pass to the next name. After checking the same, the board shall then take up the unchecked names in alphabetical order, and raise or lower the same as in their opinion will be just, checking off each tax payer as the same is adjusted."

Needless to say, this duty is performed by the typical board of review in a decidedly perfunctory manner. Furthermore, provision is also made in the law for the making of complaint either orally or in writing by any taxpayer aggrieved at the action of the assessor. Individual assessments may be raised only after giving five days' notice to the affected persons. The only possible appeal from the action of the local board of review is to the district court, which appeal must be filed within twenty days after the adjournment of the local board.

Sections 7137 and 7138 of the Iowa Code contain the legal provisions relative to county boards of review:

"The board of supervisors shall constitute a county board of review, and shall adjust the assessments of the several townships, cities and towns of their county at their regular meeting in June, and add to or deduct from the assessed value of the property substantially as the state board adjusts assessments of the several counties of the state.

"Appeals may be taken from any action or decision of a county board of review by the board of review of any city, town, or township aggrieved thereby, within the same time and in same manner as appeals are taken from the local board of review."

The county board of review, then, has only this one duty, to equalize as among the individual assessment districts of its county. It has no power to hear or pass upon appeals from individual taxpayers. The only basis for equalizing action on the part of the county board is the common observation of its members; hence its rulings, if any, are likely to be either whimsical or arbitrary. Only in case of gross incompetence or wilful malfeasance on the part of a local assessor could the county board of review be expected to take positive remedial action. Ordinarily, however, the county board exercises its equalizing power to only a small, or negligible extent.

The State Executive Council, an *ex-officio* body composed of the Governor, Secretary of State, Auditor of State, Treasurer of State, and Secretary of Agriculture, has among its numerous other duties the duty of serving as a state board of review and in that capacity equalizing assessments as among the ninety-nine counties

of the state. It must perform this function between the second Monday of July and the third Monday of August of each year. As provided in section 7141,

"It shall adjust the valuation of property in the several counties, adding to or deducting from the valuation of each kind or class of property such percentage in each case as will bring the same to its taxable value as fixed in chapters 330 to 344, inclusive."

However, no increase may be made in the total assessed value in any class of property in any county without giving ten days' notice of the proposed increase to the auditor of the county, and affording an opportunity for representatives of the county to appear at a hearing relative thereto. No legal provision is made for appeals from the final rulings of the State Board of Review. Mention has already been made of the second duty of the State Executive Council in connection with the Iowa assessment system, to assess the property of selected types of public service companies. Since the State Executive Council is a purely *ex-officio* body, since its members are overburdened with other duties, since they are ordinarily possessed of neither especial skill nor training in connection with assessment work, and since it is obliged to rely upon either formal reports from property-owning corporations and minor officials or the common knowledge of its members for factual material, it is to be anticipated that its duties both as assessor of corporate property and as State Board of Review will be performed in an altogether routine and perfunctory manner.

This description of Iowa's assessment machinery prior to the passage of the measure of 1929 will suffice, it is to be hoped, to indicate the extreme degree to which fiscal decentralization was carried. The diminutive assessment areas, of which there are 2,354, or an average of over 22 to each county; the elected local assessor, often untrained and inexpert, working independently of his fellow assessors, and free from outside supervision; an *ex-officio* board of review, instructed by law to duplicate in a large measure the work of the assessor; the county board of review, a second *ex-officio* body, without power to review individual assessments; the State Executive Council, the third *ex-officio* body, required by law to assume equalization and assessment functions for the performance of which it is obviously unprepared;—these are the elements in a situation that has in it so little of organization and correlation of parts as scarcely to deserve being termed an assessment system. It should be emphasized that all Iowa assess-

ment data presented in this chapter are for years during which the foregoing description of Iowa assessment machinery was applicable.

The Forty-third General Assembly of Iowa took the first important steps looking toward bringing order out of this chaos of administrative decentralization. There was created a State Board of Assessment and Review, which title is merely a euphonious substitute for the more common "State Tax Commission." This board is composed of three members who are appointed by the Governor with the consent of the Senate, not more than two of whom shall belong to the same political party. The term of office is six years and the salary is $4,500 per annum. To this newly created State Board of Assessment and Review were transferred *in toto* all the powers and duties previously vested in and imposed upon the Auditor of State and the Executive Council, relating to the assessment, equalization and collection of taxes. Among its other major powers and duties are:

"To have and exercise general supervision over the administration of the assessment and tax laws of the state, over boards of supervisors and all other officers or boards of assessment and levy in the performance of their official duties, in all matters relating to assessment and taxation . . .

"To prescribe and promulgate all forms of books and forms to be used in the listing and assessing of property . . .

"To confer with, advise and direct boards of supervisors, boards of review and others obligated by law to make levies and assessments, as to their duties under the laws.

"To direct proceedings, actions and prosecutions to be instituted for the enforcement of the laws relating to the penalties, liabilities and punishment of public officers, and officers or agents of corporations, and other persons or corporations for failure or neglect to comply with the provisions of the statutes governing the return, assessment and taxation of property.

"To require any county board of equalization at any time after its adjournment to reconvene and to make such orders as the state Board of Assessment and Review shall determine are just and necessary."[1]

Among the minor and auxiliary powers and duties of the Board are these: to require reports of the various assessing and taxing officials; to hold necessary public hearings and summon witnesses thereto; to personally investigate the work of assessing officials throughout the state; to investigate all alleged cases of evasion or violation of assessment and tax laws; to summarize statistically the revenue situation in the state; to submit a biennial report, together with recommendations for improvements in the state's taxation system; and to institute action looking toward the uncovering of hitherto unlisted taxable property.

[1]Section 17, Chapter 205, Laws of the Forty-third General Assembly.

Finally, mention should be made of a clause appearing in paragraph 9, Section 17, Chapter 205, Laws of the Forty-third General Assembly, which reads as follows:

> ". . . and generally to make any order or direction to any county board of equalization as to the valuation of any property, or any class of property, in any township, town, city, county or taxing district, which in the judgment of the Board may seem just and necessary, to the end that all property shall be valued and assessed in the manner and according to the real intent of the law."

This all-inclusive passage, unless restricted in its application by adverse court decisions[1] would seem to give almost unlimited power to the Board with reference to the assessment of every parcel of property and the work of every assessor. By virtue of this clause, opportunity is given for the Board to hear appeals from the action of any assessor, any local board of review, or any county board of review, and to hand down a definite and final ruling with reference thereto.

The Forty-third General Assembly also instituted a minor change in assessment procedure by providing that appeals may be taken by aggrieved taxpayers from the action of a local board of review to the county board of review. Individuals who fail to file such complaint with the county board of review are estopped from later appeal to the district court.

Sufficient time has not yet elapsed to make possible any fair evaluation of the real worth of, or the lasting results that may be attributed to, this 1929 legislation. That it promises great gains is not to be denied. The establishment of a permanent tax commission with long tenure of office for its members and with broad and inclusive powers gives the Iowa assessment system a definite administrative head, and should go far toward its correlation and integration. Certain it is this newly created State Board of Assessment and Review is given an opportunity of leading Iowa out of the darker portions of the fiscal wilderness in which she has been wandering.

Iowa Assessment Data

A much larger volume of sales and assessment data was obtained for Iowa for the purpose of this study than was secured for any other state. In all, information covering assessed and either sale

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[1] A liberal interpretation of this clause has already been upheld in a recent decision by Judge O. J. Henderson of the Eleventh Iowa Judicial District.

or appraised values of 10,557 separate parcels of Iowa realty has been utilized. Of this total, data covering 9,685 transfers were obtained through the courtesy of Mr. R. A. Miller, Tax Commissioner of the Chicago and Northwestern Railway Company, and the remainder—872 in number—was furnished through the kindness of Prof. J. E. Brindley of Iowa State College. An investigation of the methods employed in gathering both groups of data was convincing as to the accuracy and representative character of this basic statistical material.

With reference to the type of property involved, the Iowa data are classified as follows: of 3,949 sales in 1927, 1,419 were of property in eight cities, 479 were in fourteen towns, and 2,051 were of rural property in forty-one counties; 5,736 transfers were of rural property in two counties for the twenty-year period, 1907-1926; and 872 Des Moines properties, 152 residential and 720 business properties, were utilized as samples of the 1929 expert reassessment in that city. Slightly over half of the total Iowa data, the 5,726 historical rural transfers, are of only secondary importance with respect to the main goals of this study, and have been utilized merely in an incidental way.

Assessment conditions in Iowa for 1927 are shown in summary form, following:

Eight Cities:	
Average Assessment Ratio (Number basis)	52.16
" " " (Value basis)	47.53
Average Percentage Deviation (Number basis)	32.06
" " " (Value basis)	25.66
Fourteen Towns:	
Average Assessment Ratio (Number basis)	50.29
" " " (Value basis)	46.23
Average Percentage Deviation (Number basis)	32.73
" " " (Value basis)	28.03
Rural Property, Forty-one Counties:	
Average Assessment Ratio (Number basis)	48.02
" " " (Value basis)	46.62
Average Percentage Deviation (Number basis)	19.16
" " " (Value basis)	18.44

To guard against misunderstanding, it will be well to point out that, in accordance with the statistical theory developed in Chapter 1, the above figures have been obtained by calculating an unweighted arithmetic average of the corresponding classes of figures for each of the eight cities, fourteen towns, and forty-one counties, respectively, rather than throwing all basic data together into three unitary samples. To illustrate, the state average percentage

deviation (number basis) of 32.06 for city property is an arithmetic average of the eight average percentage deviations (number basis) of the eight Iowa cities. Each of the above twelve state average figures has been obtained by this method.

It is apparent that each of the three types of Iowa property is assessed on the average at approximately one-half of its full market value. This is an assessment level lower than is found in any of the other four states considered in this study. This practical identity of average assessment ratios of city, town, and rural property is undeniably a fiscal virtue which is somewhat surprising in conjunction with an assessment level as low as 50 per cent, and an assessment system as decentralized as that of Iowa. That there is some regressivity in the assessment of both city and town property is indicated by the average assessment ratio figures, these being larger upon the number basis in both instances than upon the value basis.

It should be observed that the average percentage deviation in the assessment of city property is approximately the same as that of town property and that both are very large. The deviation figure on the number basis is appreciably higher in both cases than the corresponding figure on the value basis, indicating that properties of low value are assessed less uniformly than properties of higher value. The percentage deviation in the assessment of rural property is only about two-thirds of that of property in the cities and towns. Iowa is by no means unique in this respect, however. It is characteristically true that rural property, in consequence of its relatively greater homogeneity, is assessed with greater uniformity than are most classes of urban realty. Probably in no other state is agricultural land within each assessment district more homogeneous, both as to quality of soil and character of improvements, than in Iowa; it is because of this circumstance, undoubtedly, that the disparity between rural and urban property as to uniformity in assessment is more accentuated in Iowa than in any of the other states investigated. Furthermore, of these states only one, Wisconsin, has a lower percentage deviation for rural property than has Iowa, although with respect to urban property, Indiana is the only state that has as great a lack of uniformity in assessment as has Iowa.

For the purpose of classification in this chapter, the term "city" has been arbitrarily defined to include municipalities having popu-

lations in excess of 10,000 and "town" to include incorporated places of 10,000 inhabitants or less. The statistical data relating to assessment conditions in eight Iowa cities are summarized in Table I and Chart I. Since this group contains seven of the six-

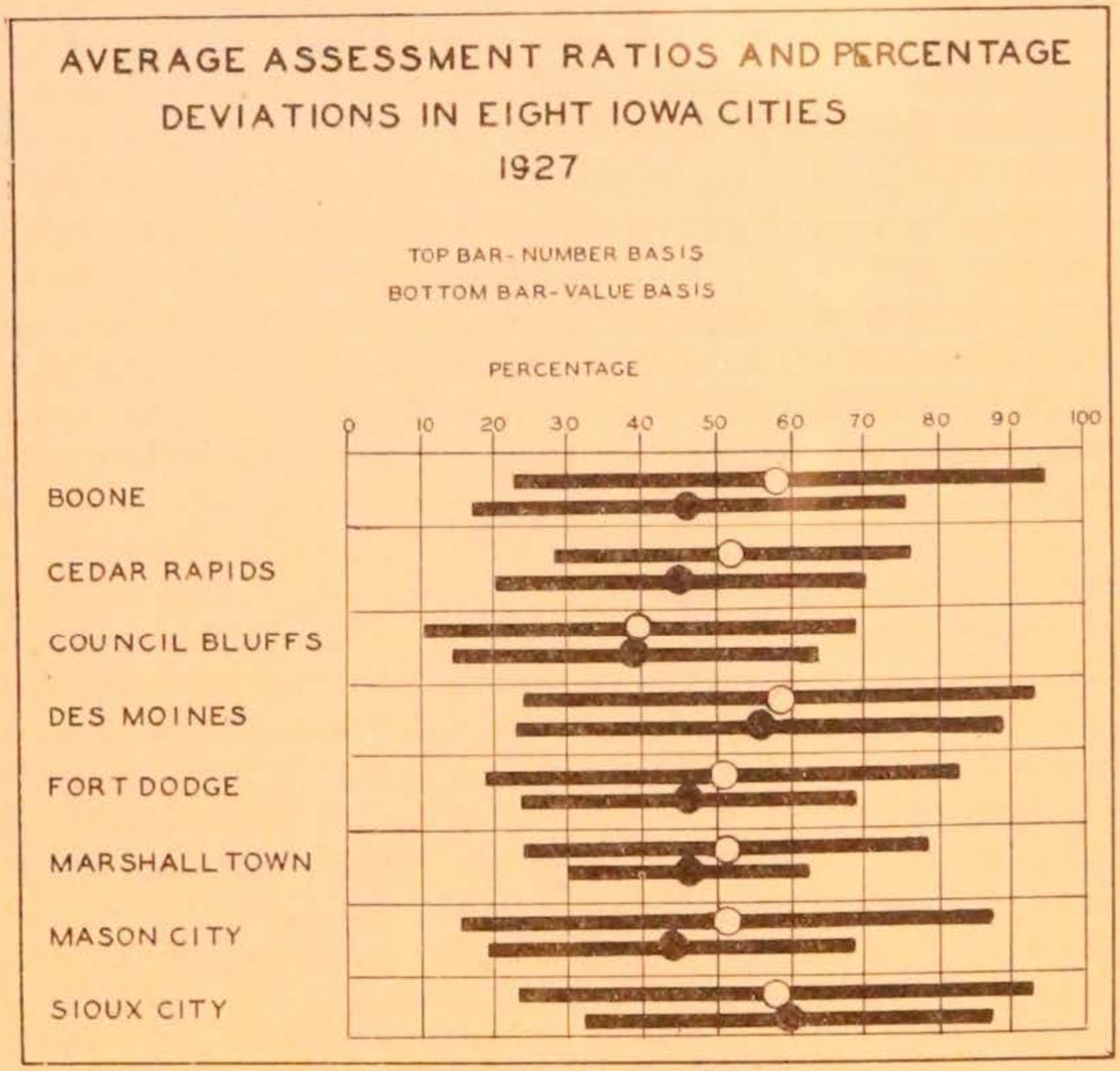


CHART I

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

teen first-class cities of Iowa, according to the 1925 census, including Des Moines and Sioux City, the two largest, there would seem no question as to the representative character of this statistical material. It will be observed that the average assessment ratios are grouped about the 50 per cent level, the two extremes being cities along the western border of the state, Council Bluffs with 38.61 and Sioux City with 59.69. These same two cities, curiously, are the only ones in which the assessment ratio on the number

basis is not higher than the same figure on the value basis, a condition that, as was pointed out in Chapter I, is a clear indication of regressivity in assessment. In this respect Boone is the extreme example, having a number basis ratio of 57.88 and a value basis ratio of 46.27. Where such discrepancy exists, the most

TABLE I
SUMMARY OF ASSESSMENT DATA FOR EIGHT IOWA CITIES
1927

City	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio		Average Percentage Deviation	
				No. Basis	Value Basis	No. Basis	Value Basis
Boone	86	$ 194,384	$ 90,197	57.88	46.27	36.32	29.35
Cedar Rapids	53	452,022	205,216	51.96	44.84	24.11	25.31
Council Bluffs	512	1,502,626	577,586	38.99	38.61	29.52	24.76
Des Moines	378	1,333,878	732,675	58.56	55.62	34.89	33.35
Ft. Dodge	109	770,024	356,820	50.34	45.91	32.22	22.87
Marshalltown	35	279,372	127,312	51.00	45.85	27.67	16.47
Mason City	64	152,254	66,110	51.05	43.45	36.49	25.16
Sioux City	182	669,161	400,496	57.48	59.69	35.26	27.99

reasonable assumption is that the "true" assessment level lies about half-way between the number basis figure and the value basis figure.

The extreme lack of uniformity that prevails in the assessment of property in Iowa cities is shown by their very high average percentage deviation figures. Considering together the figures obtained on both the number and the value bases of calculation, it will be seen that only one city has a percentage deviation of less than 20, Marshalltown, with a value basis figure of 16.47. This is an isolated instance, however, that for two reasons is not to be regarded as important; first, the Marshalltown assessment sample is not large enough to be entirely reliable, and second, this sample contains a disproportionate number of high-priced properties, nine out of thirty-five properties representing 66 per cent of the total value of all properties. The Marshalltown percentage deviation of 27.67 on the number basis is probably more genuinely indicative of assessment conditions in that city. If this instance be disregarded, it would appear that all Iowa cities are assessed in a highly inequitable manner. Cedar Rapids, with deviation indices of 24.11 and 25.31, makes what is probably the best showing of the eight, but, even so, its situation may scarcely be regarded with pride. With but one exception, the percentage deviation figures are smaller on the value than on the number basis, indi-

cating a definite tendency to assess properties of higher value at a somewhat lower level and with somewhat greater uniformity than properties of lesser value.

Chart IV was prepared, among other reasons, to give a more complete picture of assessment conditions in a representative Iowa city. This is a rectangular frequency diagram, showing graphically the percentage of total property located at all assessment levels on both bases of calculation. The wide range and pronounced skewing to the right of the distribution are apparent at a glance. An examination of the detailed statistical tables for the eight cities appearing in the Iowa section of the Appendix is convincing as to the typical character of the Des Moines situation. A wide range and positive skewness are characteristic of assessments in all Iowa cities. The range of the distributions (the difference between the smallest and the largest assessment ratio) varies from 80 in Marshalltown and Cedar Rapids to 195 in Boone and Des Moines. Some positive skewness is found in every case, but in much smaller degree in Cedar Rapids, Ft. Dodge, and Marshalltown than in the other cities.

A summary of the assessment data for the fourteen Iowa towns is given in Table II and Chart II. If data had been obtained for only a few towns, the small number of transfers in each would have been a serious statistical weakness. However, increasing the number of towns to be investigated to fourteen and total transfers

TABLE II

SUMMARY OF ASSESSMENT DATA FOR FOURTEEN IOWA TOWNS
1927

Town	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio No. Basis	Average Assessment Ratio Value Basis	Average Percentage Deviation No. Basis	Average Percentage Deviation Value Basis
Albia	32	$ 68,830	$31,436	53.16	45.32	31.47	28.33
Algona	29	106,369	55,072	47.66	51.84	31.85	25.52
Ames	44	182,437	70,140	44.48	38.08	32.53	30.99
Carroll	32	160,276	64,078	43.16	39.78	36.61	31.37
Denison	35	116,780	57,310	51.71	49.15	22.86	23.74
Eagle Grove	39	124,110	56,512	56.85	45.31	40.91	28.40
Eldora	35	111,481	44,510	44.14	39.63	31.08	31.47
Estherville	32	137,220	76,524	55.50	55.27	26.18	25.19
Harlan	36	115,252	58,252	54.94	50.52	27.88	23.04
Jefferson	29	70,199	37,500	59.21	53.92	34.84	27.84
LeMars	38	134,325	55,896	43.00	41.95	20.81	19.38
Maquoketa	31	60,094	33,362	52.35	55.74	38.62	29.31
Orange City	28	91,730	30,730	40.50	32.93	44.54	38.84
Webster City	39	108,800	52,720	57.36	47.76	38.02	28.94

to 479 would seem to establish the representative character of the data, especially in view of the wide geographical distribution of these towns and the mutual consistency of the statistical indices obtained from them.

The average assessment ratio figure (number basis) of Iowa towns are scattered between the two extremes of 40.50 for Orange City and 59.21 for Jefferson. Corresponding figures on the value basis of calculation are distributed over an equal range but in

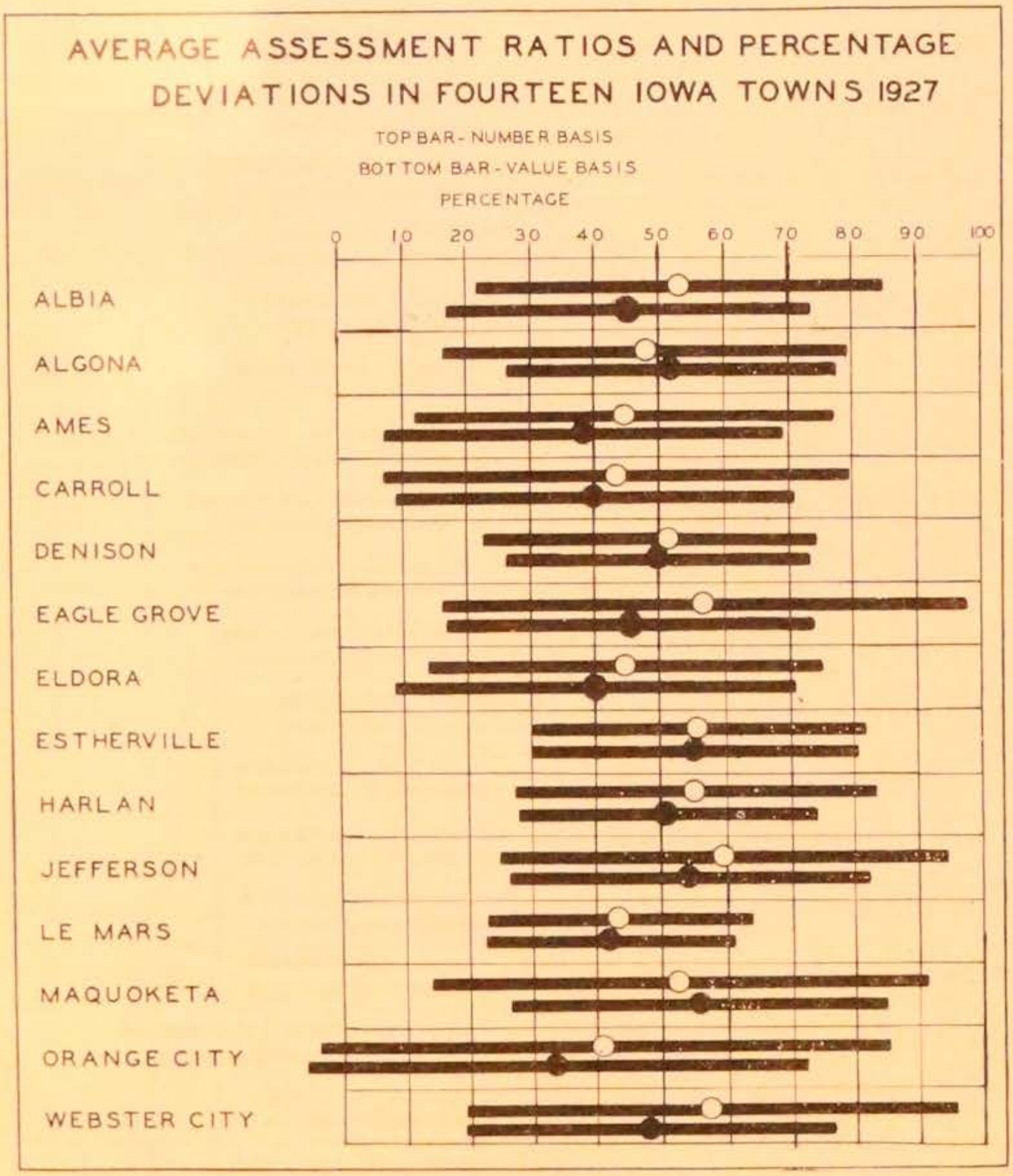
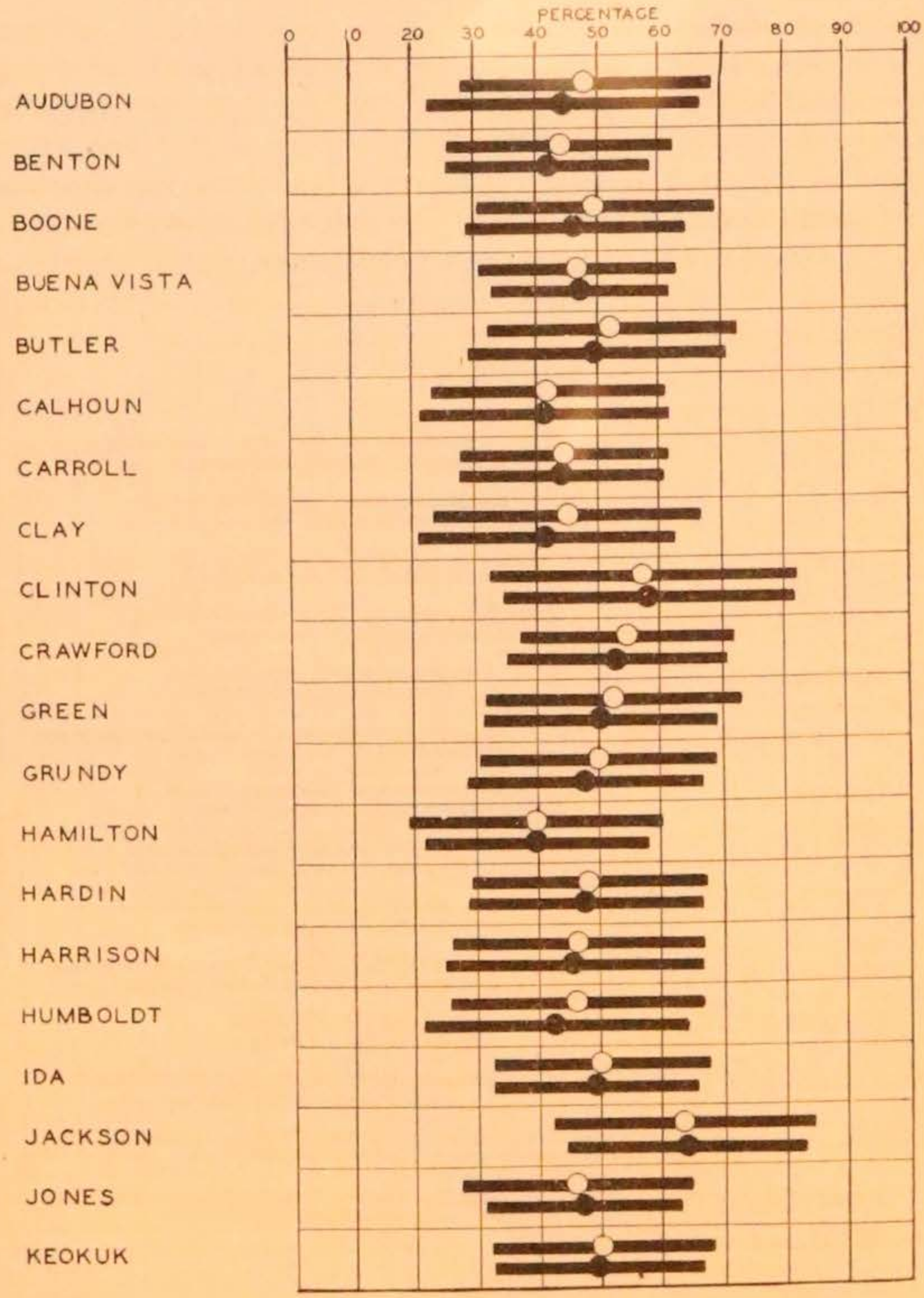


CHART II

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

AVERAGE ASSESSMENT RATIOS AND PERCENTAGE DEVIATIONS
FOR RURAL PROPERTY IN FORTY-ONE IOWA COUNTIES—1927

TOP BAR—NUMBER BASIS
BOTTOM BAR—VALUE BASIS



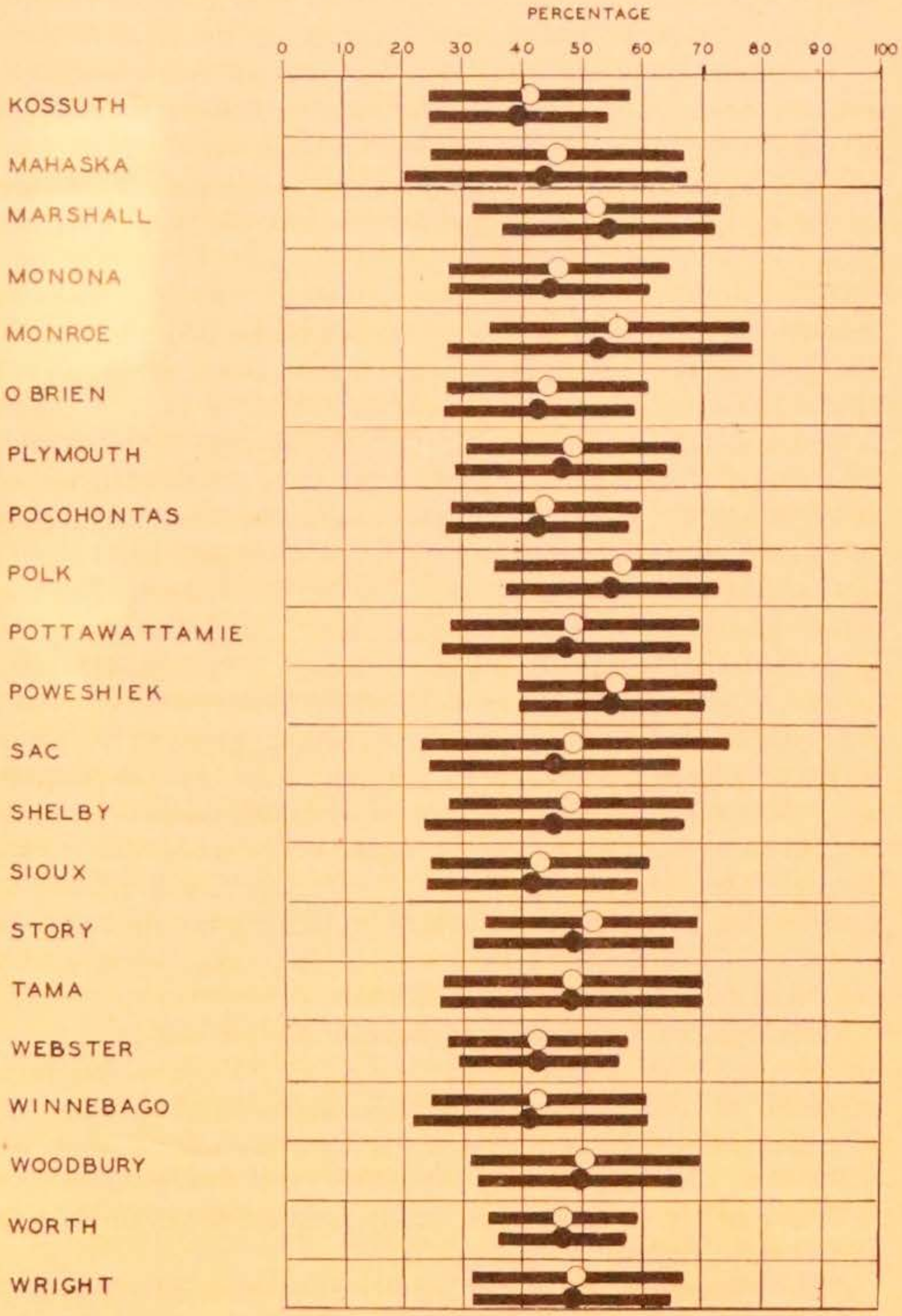


CHART III

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

twelve out of the fourteen cases are lower than those on the number basis. On first thought one is struck by the small variation in the assessment level from town to town but this circumstance appears much less impressive when one remembers the very low average level of assessment; an extreme variation of fifteen points among Iowa towns being the equivalent of a variation of thirty points in any state that approximates 100 per cent assessment level.

Although the average percentage deviations vary from 20.81 and 19.38 in LeMars to 44.54 and 38.84 in Orange City, they are all disappointingly large. Only four towns, Denison, Estherville, Harlan, and LeMars are able to reduce both of their indices of deviation below 30 per cent. In fact, the average departure from uniformity in assessment is greater for Iowa towns than for any other group of properties in the five states here investigated. With but two exceptions, the percentage deviations are larger on the number basis calculation than on the value basis. The magnitude of the inequity in assessment that is revealed by such an extreme deviation as that found in Orange City (44.54 per cent and 38.84 per cent) may be more readily comprehended if it is remembered that in this town over-assessed property is paying on the average approximately 70 per cent of the taxes as compared with 30 per cent paid on the average by under-assessed property; or in other words, that 20 per cent of the entire tax burden is lifted from the shoulders of the under-assessed taxpayers and placed on those of the over-assessed. Again, in LeMars, which makes the best showing of the fourteen towns, no less than 10 per cent of the entire tax burden is thus misplaced.

The ranges of the assessment distribution for the Iowa towns[1] average somewhat less than for the cities; this is as might be expected in view of the greater opportunities for extreme cases of mal-appraisal that are offered by the more heterogeneous city properties. In contrast with the cities, furthermore, there is to be found among the towns practically no positive skewness in the assessment distributions.

Although only a small number of transfers were reported in some counties, the large total of 2,051 transfers, divided among forty-one out of the ninety-nine counties of the state, provides data on Iowa rural property that constitute an unusually adequate

[1]See detailed tables in Iowa section of Appendix.

statistical sample. These rural data are summarized in Table III, and Chart III. The average assessment ratios vary from 63.19 in Jackson county to 38.61 in Kossuth county; however, the majority of counties are grouped rather closely about an average assessment level of approximately 48 per cent. There is a practical identity of assessment ratio figures on the number basis with those on the value basis—in no case is there a variation of as much as four points between the two. As was pointed out in Chapter I, however, this circumstance is of no significance with reference to the question of regressivity in assessment of rural property, since regression in that case relates to sale values per acre, rather than to total values of parcels that vary widely in size.

Average percentage deviations vary from 25.43 in Monroe county to 11.07 in Worth county. From this it appears not only that the departures from uniformity in the assessment of rural property are never extremely large but also that the counties of the state vary but little among themselves in this respect. When one considers the ranges of the distributions, it is found that the extremes are 105 points in Sac county and 25 points in Worth county; however, in contrast with the city and town assessments, the average range is low, approximately 45 points. Although a very few counties manifest a slight tendency toward positive skewness in their assessment distribution, the majority display no appreciable amount of skewness, either positive or negative.

The 1929 data for Des Moines are of especial interest because, taken in conjunction with the 1927 data, they make possible a comparison of results obtained by the use of the two methods of arriving at true and full property value figures, the expert appraisal and the sale consideration methods. The 872 parcels of realty, for which data were secured in the 1929 sample, include 152 residence properties and 720 business properties. Data for the first group consist of valuations placed on representative residence properties by expert appraisers, together with the 1929 assessment figures for these same properties as submitted by the local assessor. The city of Des Moines in 1929 engaged expert assessors to make a reassessment of property in the downtown business area; their appraisements, together with the 1927 assessed values for these properties, make up the data covering the second group of properties. The Des Moines data previously introduced in this chapter consist, of course, of sales figures and assessed values for 1927.

TABLE III

SUMMARY OF ASSESSMENT DATA FOR 41 IOWA COUNTIES
RURAL PROPERTY—1927

County	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio		Average Percentage Deviation	
				No. Basis	Value Basis	No. Basis	Value Basis
Audubon	24	$ 431,055	$ 188,552	47.38	44.01	20.01	21.90
Benton	50	885,601	368,848	43.20	41.64	18.22	16.50
Boone	49	662,522	304,906	49.33	45.89	19.42	17.65
Buena Vista	46	1,066,947	496,705	46.26	46.80	15.85	14.10
Butler	45	694,701	341,956	51.89	48.83	20.02	21.07
Calhoun	47	1,149,353	469,835	41.72	40.89	19.20	20.10
Carroll	72	1,426,582	611,799	43.56	42.95	17.19	16.67
Clay	36	696,088	284,590	44.67	40.72	21.76	20.92
Clinton	25	405,518	234,912	56.80	57.21	24.75	23.47
Crawford	101	2,097,322	1,088,816	53.64	51.91	17.23	17.51
Greene	37	686,930	341,445	51.78	49.26	21.34	18.80
Grundy	30	702,955	328,500	49.33	46.97	19.46	19.57
Hamilton	31	652,905	250,165	38.97	38.70	20.58	18.27
Hardin	41	745,007	349,130	47.27	46.94	19.21	19.19
Harrison	97	1,392,741	620,560	45.94	44.80	20.24	21.18
Humboldt	33	528,371	224,660	45.27	41.91	20.50	21.45
Ida	36	922,244	439,864	48.83	47.82	16.98	16.65
Jackson	53	527,362	330,984	62.43	63.19	21.74	19.64
Jones	26	487,581	225,172	45.12	46.25	18.55	15.91
Keokuk	78	1,194,426	577,974	49.22	48.49	17.76	16.73
Kossuth	54	1,163,967	449,244	40.22	38.61	16.48	14.87
Mahaska	28	467,156	199,471	44.61	42.58	21.21	22.97
Marshall	27	471,691	254,114	52.07	54.12	21.18	17.74
Monona	42	712,916	312,992	46.33	44.41	18.67	16.87
Monroe	39	265,685	137,733	56.33	52.57	22.16	25.43
O'Brien	57	1,427,551	612,216	43.88	42.77	16.84	16.27
Plymouth	68	1,482,393	705,043	48.22	46.65	17.98	17.79
Pocahontas	62	1,430,013	609,900	43.48	42.40	15.80	15.40
Polk	24	312,850	169,738	56.54	54.86	21.44	17.57
Pottawattamie	84	1,460,449	691,474	48.77	47.18	21.06	21.24
Poweshiek	52	757,492	414,598	55.60	54.37	16.78	15.60
Sac	51	1,156,424	534,544	48.88	45.67	25.82	21.24
Shelby	59	1,286,255	577,588	48.08	45.18	20.65	21.96
Sioux	116	2,391,618	1,011,782	42.78	41.77	18.26	17.60
Story	54	911,102	445,125	51.70	48.51	17.81	16.47
Tama	44	683,522	329,864	48.11	47.96	21.55	22.00
Webster	64	1,107,199	466,486	42.22	42.17	14.73	13.52
Winnebago	26	375,615	152,286	42.62	41.06	18.11	19.48
Woodbury	62	1,053,297	514,398	50.26	49.01	18.80	16.91
Worth	22	255,046	117,418	46.64	46.53	12.67	11.07
Wright	59	1,234,029	597,460	48.93	48.06	17.72	16.60

If the 1929 material is considered collectively, it constitutes a sample of expert reassessment data that parallels the 1927 sales consideration sample.

Certain minor qualifications to the last statement should be made, however. Although the 378 properties involved in the 1927

data are of undefined character, nearly all of them have relatively small market prices, indicating that they are devoted primarily to residential usage; if so, these data are closely comparable only with the 1929 residential data. Minor changes only were made in assessed values of residential property in 1929 as compared with 1927, hence this time variation of two years between the assessment bases can, at the most, be of only negligible significance. Finally, it is logically impossible to use the business property data both to test the soundness of the 1929 reassessment and to compare assessment conditions of business properties with those of residence properties. It may be altogether permissible to assume that the Des Moines business area was assessed in the same fashion in 1927 as the residential areas and to use these data as evidence relative to the quality of the 1929 reassessment; on the other hand, it might be quite legitimate to assume the excellence of the 1929 reassessment, and use these same data as evidence relative to the similarity of assessment of business and residence properties; to simultaneously employ both assumptions, however, would obviously involve circular reasoning. As between these alternative assumptions, there is at hand no concrete evidence on which to base a decision favorable to one as against the other; in the face of this situation the authors prefer to leave the question an open one.

A comparative presentation of the assessment indices for these groups of Des Moines data is made in Table IV. It is immediately apparent that the three statistical samples are mutually harmonious and altogether consistent in the picture that they give of assessment conditions in Des Moines. This is so much the case that the reader may feel, perhaps with justification, that the preceding paragraph is merely an overcautious anticipation of statistical obstacles.

Groups I and II have practically identical average assessment ratios. The substantially higher figures for Group III might indicate that the assessment of business property was on a higher level in 1927 than residence property. A more likely interpretation, however, is that the assessment of 1929 leaned in the direction of conservatism and hence fixed a level of values somewhat below the

TABLE IV

SUMMARY OF ASSESSMENT INDICES

for

Des Moines, Iowa

Group	I	II	III
	Actual Sales Unclassified Property	Expert Appraisal Residence Property	Expert Reassessment Business Property
	1927	1929	1929
Avg. Assessment Ratio (No. basis)	58.56	55.70	75.49
" " " (Value basis)	55.62	56.73	62.74
Percentage Deviation (No. basis)	34.89	32.24	27.31
" " (Value basis)	33.35	28.15	24.93
Range of Distribution	3%-198%	13%-173%	13%-288%

market—an explanation that is the more probable in view of the fact that the primary object of the reassessment was the correction of individual inequalities rather than the elevation of the entire level of assessment. Only in Group III is there any significant difference between the assessment ratio on the number basis and that on the value basis; in this group the divergence of nearly thirteen points is evidence of considerable regressivity in the assessment of business property.

The maximum average percentage deviations are found in Group I. The small drop to the figures of Group II may be due to the influence of a few erratic sale considerations, to the non-identity of properties included in the two groups, or in part to both, but in any case it is so small as to be of negligible importance. The deviation figures for Group III average eight points lower than those for Group I, a divergence too great to be summarily dismissed. Here we are faced with the dilemma anticipated above. Is this divergence to be interpreted as an indication that the Des Moines business properties were assessed less inequitably in 1927 than were residence properties, or is it the result of an excessive conservatism on the part of the reassessors—a disinclination to depart widely from the assessed values in 1927 in the case of some business properties? The judgment of the authors is that both possibilities have entered into the situation as causal factors, but in undetermined degrees. No more definite and precise answer may be safely advanced.

Although graphical evidence is usually not conclusive, it is always highly suggestive. An examination of the rectangular frequency diagrams of Charts IV, V, and VI is calculated to lend

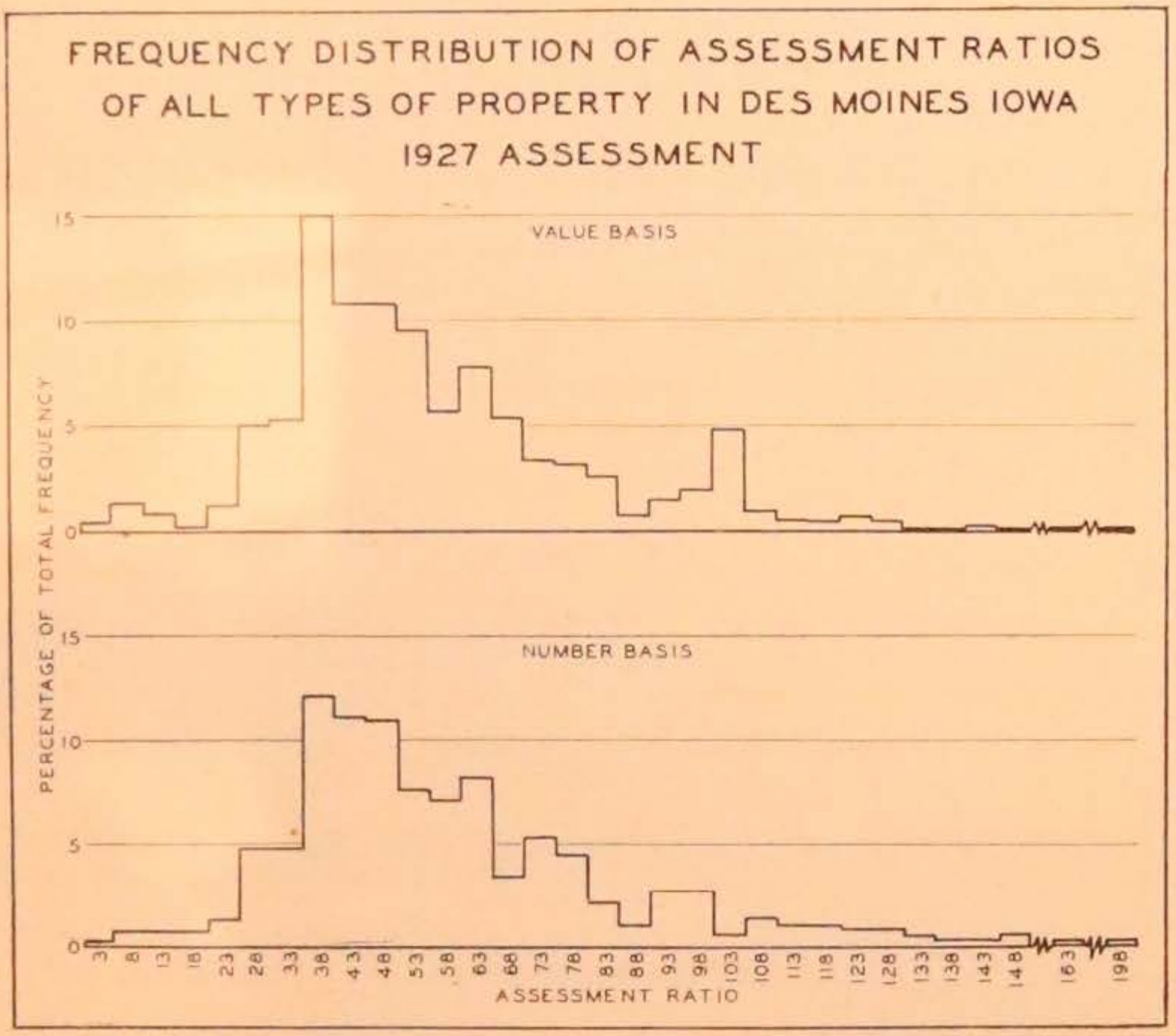


CHART IV

support to the contention that the three statistical samples tell substantially the same story as to the nature of Des Moines assessment conditions. The same type of frequency curve is found in every case. Positive skewness is a prominent characteristic of each. The range of the distributions is large in every instance, the lowest figure being the 160 point range of the appraised residential properties. The reassessed business properties seem to have the ridiculously large range of 275 points, but this figure is misleading, in that it is due to a single small and extremely erratic item which lies 60 points beyond the next most divergent property.

By way of emphasis attention may again be called to the importance of these two groups of 1929 data as samples of results that may be obtained by substituting the efforts of expert appraisers for those of unskilled assessors. Analysis of these data is convincing as to the high quality of the work that went into the making of the 1929 appraisements. The values assigned to resi-

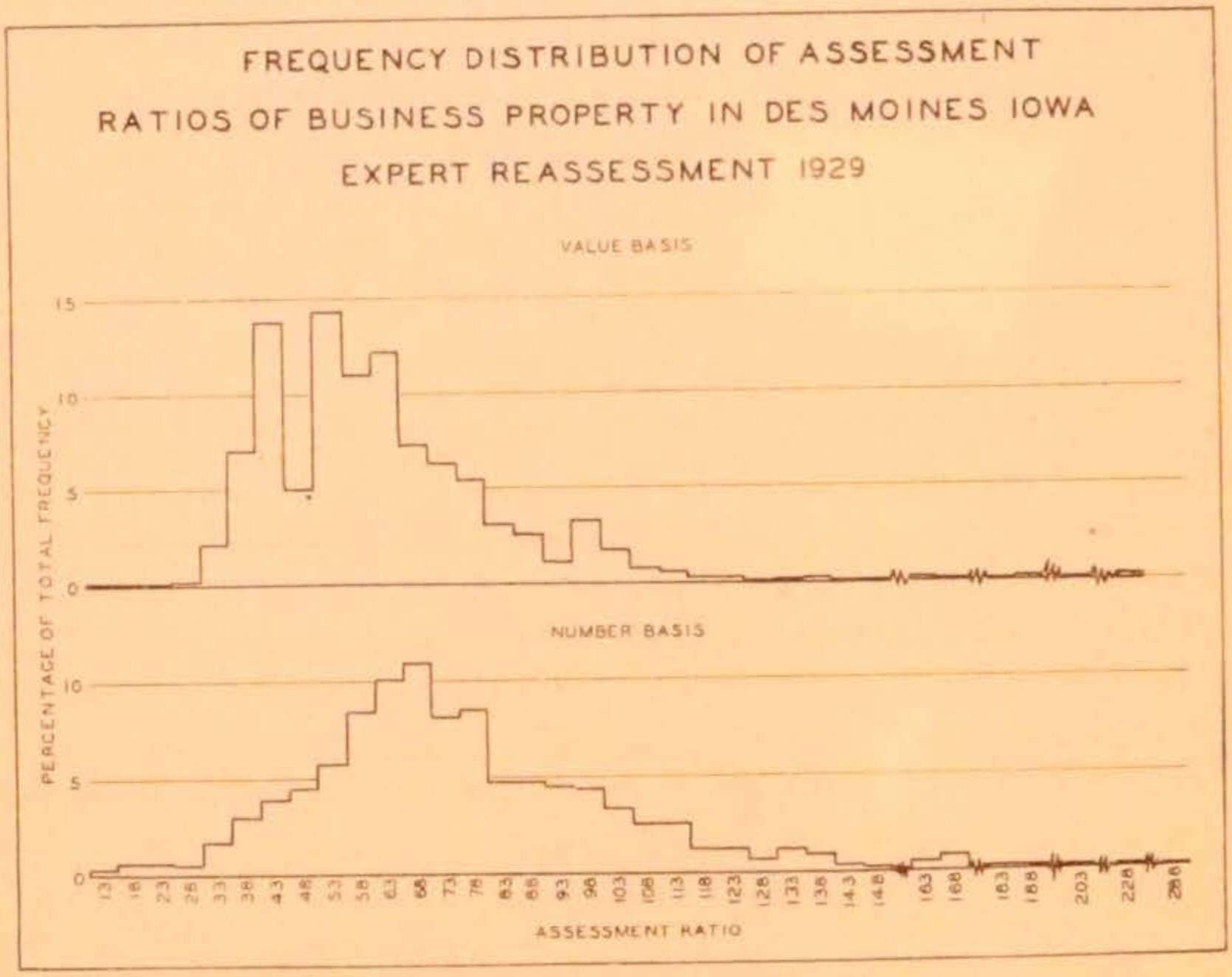


CHART V

dence properties appear to have approximated actual market values. The reassessment figures for business properties, possibly somewhat less perfect than those of the other class, are at least vastly superior to the original assessed valuations. Finally, it should be stated that there has come to light no circumstance that would tend to undermine confidence in the representative nature of the Des Moines situation; hence there is no reason to believe that the results secured here from expert appraisal are not typical of the results that might be secured by like action in other assessment areas.

Tables summarizing the relationship between the market value of properties and the average level of assessment have been prepared for each Iowa assessment district for which a statistical sample has been secured. In considering these tabulations it should be remembered that, for regressivity to be present in any given city, it is not necessary that there be a steady, uninterrupted decline in the average assessment ratio figures as we pass from properties of lower value to those of higher value. To find an unmis-

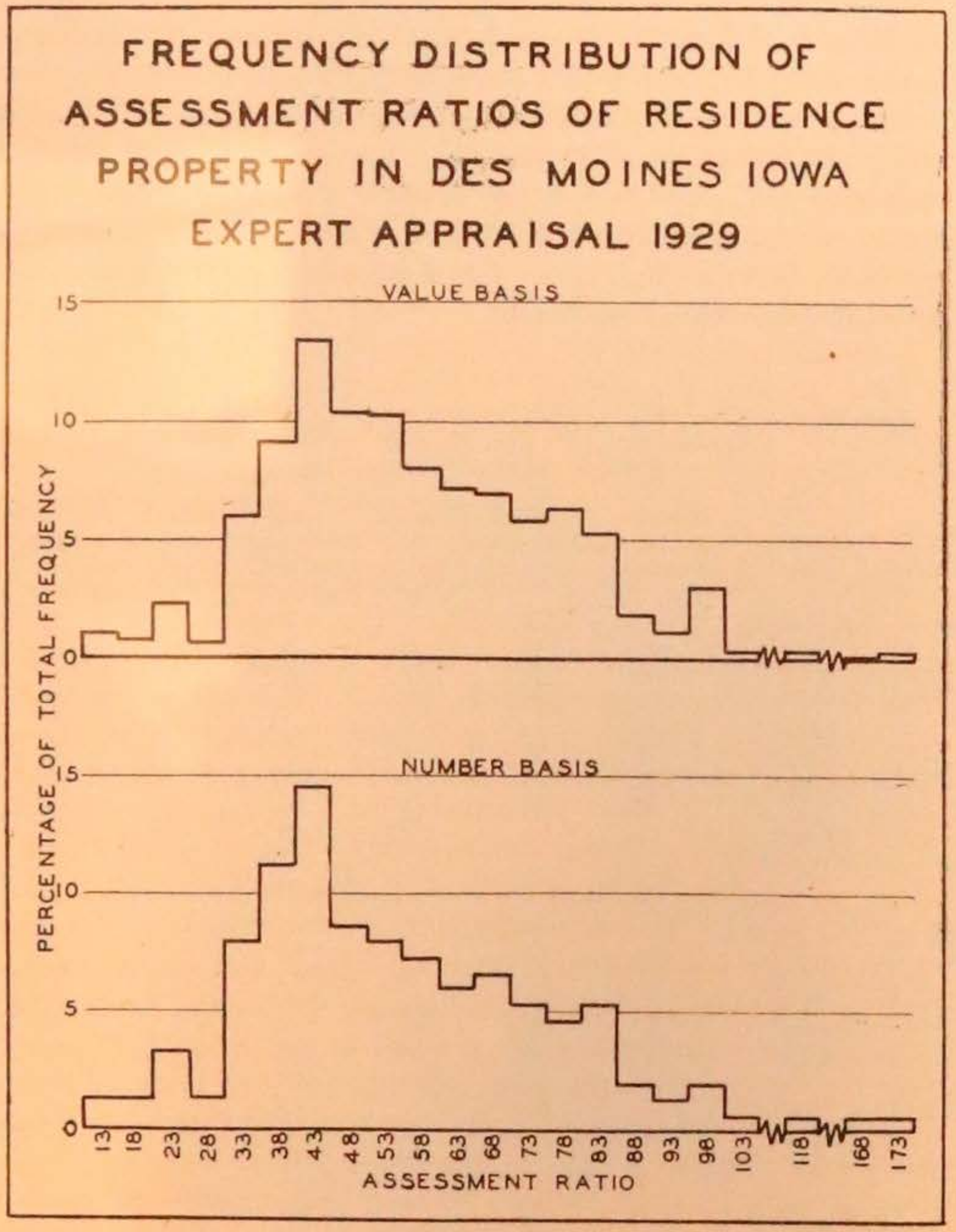


CHART VI

takable tendency toward such a decline is to demonstrate that, in some measure, regressivity is present in the assessment situation. Furthermore, there are to be found many instances of assessment ratios that are badly out of line with the figures that precede and those that follow; in the majority of such instances it will be found that these erratic ratios have been determined by a very few prop-

erties, that is, the assessment ratio is not based upon an adequate statistical sampling of the value class in question. For example, in the Mason City tabulation the ratio for the $3,251—$4,250 class is 65 per cent, which figure is preceded by a ratio of 43 per cent and followed by one of 39 per cent; however, this ratio is based upon only two properties, either or both of which may have been highly unrepresentative. In all such cases caution may well be exercised in attaching great significance to isolated assessment ratios that are badly out of line.

TABLE V

RELATIONSHIP BETWEEN MARKET VALUE OF PROPERTY AND AVERAGE LEVEL OF ASSESSMENT, EIGHT IOWA CITIES, 1927

Value Class	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %
	Boone		Cedar Rapids		Council Bluffs	
$ 0—$ 250	5	99			8	21
251— 1,250	27	69	6	48	143	39
1,251— 2,250	23	54	10	62	109	43
2,251— 3,250	13	43	4	55	78	40
3,251— 4,250	8	44	9	52	61	36
4,251— 5,250	2	35	6	45	65	34
5,251— 6,250	5	35	3	48	25	40
6,251— 7,250	3*	38	2	45	10	38
7,251— 8,250			13*	45	2	40
8,251—up					11	34
	Fort Dodge		Des Moines		Marshalltown	
$ 0—$ 250	1	45				
251— 1,250	28	59	106	63	4	60
1,251— 2,250	15	52	74	61	9	57
2,251— 3,250	18	42	53	63	7	51
3,251— 4,250	13	49	40	54	4	55
4,251— 5,250	9	37	36	50	3	42
5,251— 6,250	8	45	21	54	2	55
6,251— 7,250	3	38	16	48	6*	43
7,251— 8,250	14*	51	12	48		
8,251—up			20	47		
	Mason City		Sioux City			
$ 0—$ 250	2	65	3	82		
251— 1,250	33	57	75	50		
1,251— 2,250	9	47	23	73		
2,251— 3,250	6	43	22	58		
3,251— 4,250	2	65	14	61		
4,251— 5,250	5	39	17	48		
5,251— 6,250	4	30	11	57		
6,251— 7,250			4	52		
7,251— 8,250			2	95		
8,251—up			11	53		

*Value class indicated, and scattering higher values.

Table V covers the situation with respect to the eight Iowa cities. These cities fall readily into three groups: Boone and Mason City, which manifest regressivity to an exaggerated extent; Cedar Rapids, Fort Dodge, Des Moines, and Marshalltown, in which regressivity is present, but to a much lesser degree; and Council Bluffs and Sioux City, in which there appears to be no definite regressivity, although the assessment ratios of the several value classes vary erratically over a wide range.

Table VI deals with properties included in the 1929 expert assessment data for Des Moines. The assessment of residential properties, although highly irregular, manifests no definite tendency towards regression. The business properties, on the other hand, are assessed in a much less erratic fashion but show an unmistakable tendency toward regression.

Results of the analysis of the fourteen towns are presented in Table VII. Summarizing with respect to these: Algona, Jefferson, LeMars, and Maquoketa fail to give any clear-cut indication of being regressively assessed; Albia, Ames, Denison, Eagle Grove, Eldora, Estherville, and Harlan display regressivity in varying degrees; while Carroll, Orange City, and Webster City show regressivity in such a pronounced way as to deserve a place at the foot of the group.

Table VIII sets forth conditions with respect to regressivity in the forty-one Iowa counties investigated. With respect to this assessment weakness there is a marked difference between rural property on the one hand, and town and city property on the other. Rural property is assessed in a much less erratic fashion, but in almost every county there is a higher negative correlation between value of property and the assessment level than is to be found in the typical city or town. Since an unmistakable tendency toward regression in the assessment of urban property has been indicated, the reader may promptly infer that this tendency is present to a most pronounced degree in the assessment of rural property. Such, indeed, is the case. No one of the forty-one counties fails to display regressivity. Characteristically, the tabulations of assessment ratios show persistent and uninterrupted declines, although there is considerable variation among counties as to the extent and rapidity of such declines. This monotonous duplication of assessment patterns throughout the state indicates

TABLE VI

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL

Des Moines, Iowa, 1929

BUSINESS PROPERTIES			RESIDENTIAL PROPERTIES		
Value Class	Number of Properties	Average Assessment Ratio %	Value Class	Number of Properties	Average Assessment Ratio %
$ 0—$ 5,000	122	74	$ 0—$ 2,250	7	64
5,001— 10,000	123	87	2,251— 3,250	27	49
10,001— 15,000	65	83	3,251— 4,250	23	46
15,001— 25,000	73	70	4,251— 5,250	32	59
25,001— 50,000	114	76	5,251— 6,250	19	65
50,001— 75,000	51	72	6,251— 7,250	10	61
75,001— 100,000	47	74	7,251— 8,250	12	48
100,001— 200,000	72	72	8,251— 10,250	10	60
200,001— 300,000	16	61	10,251— 15,300	12	59
300,001— 500,000	14	60		152	
500,001—up	23	51			
	720				

TABLE VII

RELATIONSHIP BETWEEN MARKET VALUE OF PROPERTY AND AVERAGE LEVEL OF ASSESSMENT, FOURTEEN IOWA TOWNS, 1927

Value Class	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %
	Albia		Algona		Ames	
$ 0—$ 250	2	55	1	39	15	52
251— 1,250	16	61	4		3	25
1,251— 2,250	5	47	10	48	3	52
2,251— 3,250	4	48	3	35	8	48
3,251— 4,250	5*	37	2	65	5	35
4,251— 5,250			2	35	10*	35
5,251— 6,250			3	42		
6,251—up			4	60		
	Carroll		Denison		Eagle Grove	
$ 0—$ 250	1	59			3	98
251— 1,250	6		5	71	9	86
1,251— 2,250	8	49	9	52	7	42
2,251— 3,250	2	35	4	43	6	48
3,251— 4,250	3	32	6	50	5	39
4,251— 5,250	3	25	7	39	3	38
5,251— 6,250	3	28	4*	53	1	
6,251—up	6	37			5	43
	Eldora		Estherville		Harlan	
$ 0—$ 250					3	52
251— 1,250	6	50	3	88	9	55
1,251— 2,250	10	51	11	50	7	59
2,251— 3,250	4	45	7	55	4	55
3,251— 4,250	6	37	2	50	6	57
4,251— 5,250	3	55	4	58	2	55
5,251— 6,250	2	25	5*	47	2	50
6,251—up	4	33			3	38

Value Class	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %
	Jefferson		LeMars		Maquoketa	
$ 0—$ 250					1	50
251— 1,250	11	75	9	39	14	
1,251— 2,250	3	45	6	50	6	48
2,251— 3,250	5	47	5	35	5	41
3,251— 4,250	6	45	5	47	3	65
4,251— 5,250	2	70	4	40	2*	65
5,251— 6,250	2	55	3	38		
6,251—up			6	42		
			Orange City		Webster City	
$ 0—$ 250					5	63
251— 1,250			4	60	9	54
1,251— 2,250			8	44	7	52
2,251— 3,250			6	37	4	45
3,251— 4,250			4	38	3	65
4,251— 5,250			1	35	2	45
5,251— 6,250			1		1	
6,251—up			4	20	6	42

TABLE VIII

RELATIONSHIP BETWEEN PRICE PER ACRE AND AVERAGE ASSESSMENT LEVEL, RURAL PROPERTY, FORTY-ONE COUNTIES, IOWA, 1927

Price per Acre	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %
	Audubon		Clay		Clinton	
$ 21—$ 40						
41— 60						
61— 80					3	75
81— 100			5	59	4	58
101— 120	5	63	5	55	2	80
121— 140	2	60	7	45	6	60
141— 160	5	47	3	45	4	50
161— 180	3	45	8	38	6*	43
181— 200	3	38	5	35		
201— 220	4	35	3*	28		
221— 240						
241— 260	2*	30				
261—up						
	Greene		Grundy		Hamilton	
$ 21—$ 40						
41— 60						
61— 80	1	75				
81— 100	3	72				
101— 120	3	75	2	75	3	52
121— 140	3	62	8	61	5	47
141— 160	10	51	4	50	3	45
161— 180	4	45	4	45	5	41
181— 200	9	41	8	38	5	35
201— 220	4*	35	4*	37	4	35
221— 240					6	28
241— 260						
261—up						

*Value class indicated, and scattering higher values.

Price per Acre	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %
	Hardin		Harrison		Humboldt	
$ 21—$ 40						
41— 60						
61— 80						
81— 100	3	45	13	59	1	75
101— 120	5	61	20	51	7	59
121— 140	5	55	25	49	6	48
141— 160	8	49	14	40	5	45
161— 180	9	45	8	41	2*	30
181— 200	5	41	9	33		
201— 220	6	34	2	35		
221— 240			6	30		
	Ida		Jackson		Jones	
$ 21—$ 40			2	60		
41— 60			10	71		
61— 80			11	65	1	55
81— 100	1	85	9	56	5	49
101— 120	3	65	12	61	2	45
121— 140	4	55	6	55	3	62
141— 160	10	49	3*	38	3	42
161— 180	10	45			5	47
181— 200	3	38			3	42
201— 220	5*	35			4*	33
	Keokuk		Kossuth		Mahaska	
$ 21—$ 40						
41— 60						
61— 80	3	55				
81— 100	9	62	6	53		
101— 120	10	49	4	53	3	60
121— 140	13	51	10	43	1	35
141— 160	14	47	17	39	8	45
161— 180	5	47	12	35	6	47
181— 200	10	48	5*	29	8	36
201— 220	5	35			2*	30
221— 240	9	41				
241— 260						
261—up						
	Marshall		Monona		Monroe	
$ 21—$ 40					2	75
41— 60			2	80	8	66
61— 80			2	65	13	60
81— 100			6	50	6	43
101— 120	8	66	5	44	4	48
121— 140	1	65	9	45	3	48
141— 160	8	51	11	39	3*	41
161— 180	5	47	2	45		
181— 200			6*	32		
201— 220	3	35				
221— 240	2*	25				
241— 260						
261—up						

Price per Acre	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %	Number of Transfers	Average Assessment Ratio %
	Plymouth		Pocahontas		Polk	
$ 21—$ 40						
41— 60	1	65				
61— 80						
81— 100	2	50	1	75		
101— 121	5	67	4	55	2	80
121— 140	15	54	14	51	8	57
141— 160	11	51	18	44	5	61
161— 180	9	46	11	39	3	48
181— 200	8	43	10	35	2	60
201— 220	8	41	2	25	2	45
221— 240	9*	39				
241— 260					2*	30
261—up			2	25		
	Pottawattamie		Poweshiek		Sac	
$ 21—$ 40						
41— 60						
61— 80	4	73	2	80		
81— 100	4	68	14	62		
101— 120	15	58	6	55	4	63
121— 140	16	54	10	54	4	60
141— 160	15	46	7	46	8	59
161— 180	10	40	7	46	5	49
181— 200	12	35	6*	48	9	53
201— 220	8*	34			11	37
221— 240					5	35
241— 260					5*	37
261—up						
	Shelby		Sioux		Story	
$ 21—$ 40						
41— 60						
61— 80						
81— 100					2	70
101— 120	8	60	3	52	4	73
121— 140	10	54	9	57	6	60
141— 160	11	54	22	51	14	53
161— 180	8	46	16	44	13	47
181— 200	7	41	15	44	7	42
201— 220	8	35	18	37	2	40
221— 240	5	33	12	35	2	35
241— 260	2*	30	13	32		
261—up			9	28	4	40
	Tama		Webster		Winnebago	
$ 21—$ 40						
41— 60						
61— 80	2	80	1	55		
81— 100	4	63			5	49
101— 120	2	55	4	53	5	51
121— 140	12	55	12	48	9	41
141— 160	6	48	16	46		
161— 180	5	41	14	39	5	33
181— 200	6	34	12	35	2*	25
201— 220			5*	33		
221— 240	7*	34				
241— 260						
261—up						

		Woodbury		Worth		Wright	
$ 21—	$ 40						
41—	60						
61—	80						
81—	100	10	67	4	58	3	68
101—	120	6	57	2	40	14	59
121—	140	9	54	9	44	15	50
141—	160	14	44	7	42	9	47
161—	180	9	44			11	37
181—	200	4	43			3	35
201—	220	3	42			2	35
221—	240	4	38			2	35
241—	260						
261—up		3	45				
		Benton		Boone		Buena Vista	
$ 41—	$ 80	3	62				
81—	120	6	43	6	70	4	63
121—	160	11	52	17	53	13	52
161—	200	15	40	16	43	21	43
201—	240	10	37	6	37	6	36
241—	280	4	35	4*	43	2	35
281—up		1	25				
		Butler		Calhoun		Carroll	
$ 41—	$ 80	1	65				
81—	120	17	60	2	70	3	68
121—	160	17	51	10	51	24	50
161—	200	7	38	21	42	24	43
201—	240	3	35	4	35	10	35
241—	280			8	27	9	33
281—up				2	25	2	25
		Crawford		O'Brien			
$ 41—	$ 80	2	70				
81—	120	24	65	2	60		
121—	160	40	56	16	52		
161—	200	26	43	21	45		
201—	240	6	38	15	35		
241—	280	3*	32	3*	32		
281—up							

*Price per acre indicated, together with scattering higher values.

the failure of rural assessors to take sufficient cognizance of differences in the true values of farms within their respective townships. Parcels of realty of average value are, on the whole, appraised quite uniformly and equitably; properties whose value does not coincide with the average are assessed higher—but not sufficiently higher, or lower—but not sufficiently lower, than the properties of average value.

Charts VII and VIII have been prepared to permit of graphic comparison of Iowa rural and urban property in the matter of regressivity in assessment. The eight counties, four cities, and four towns were selected for presentation with the thought that each is typical of its class. A casual examination of the charts suffices to emphasize the major differences already discussed. The

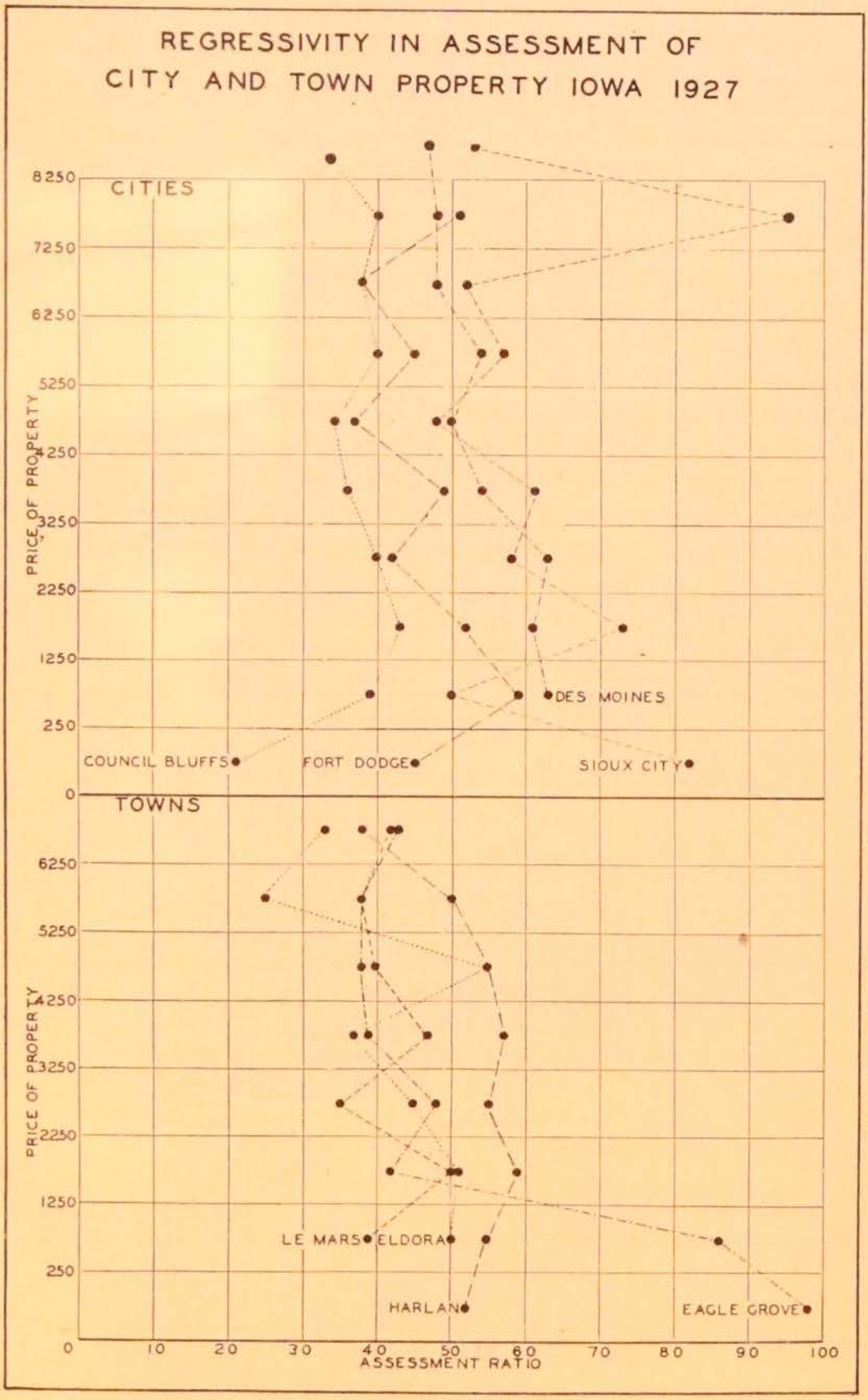

REGRESSIVITY IN ASSESSMENT OF
CITY AND TOWN PROPERTY IOWA 1927
CITIES
8250
7250
6250
5250
4250
3250
2250
1250
250
0
PRICE OF PROPERTY
DES MOINES
COUNCIL BLUFFS
FORT DODGE
SIOUX CITY
TOWNS
6250
5250
4250
3250
2250
1250
250
0
PRICE OF PROPERTY
LE MARS
ELDORA
HARLAN
EAGLE GROVE
0
10
20
30
40
50
60
70
80
90
100
ASSESSMENT RATIO

CHART VII

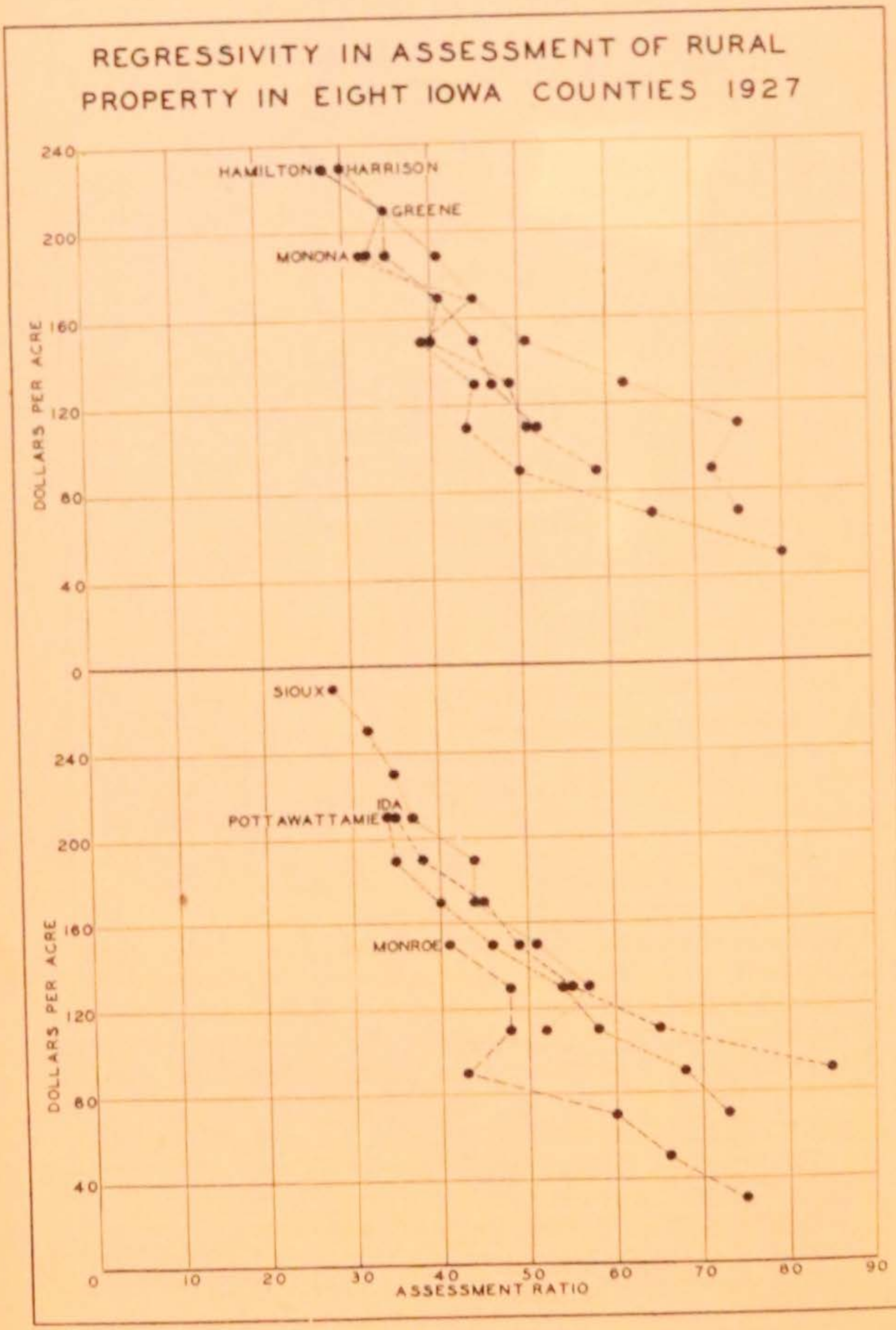

REGRESSIVITY IN ASSESSMENT OF RURAL PROPERTY IN EIGHT IOWA COUNTIES 1927
DOLLARS PER ACRE
240
200
160
120
80
40
0
HAMILTON
HARRISON
GREENE
MONONA
SIOUX
IDA
POTTAWATTAMIE
MONROE
10
20
30
40
50
60
70
80
90
ASSESSMENT RATIO

CHART VIII

aimless, erratic, irregular distribution of the city and town ratios, manifesting a mild but nevertheless unmistakable tendency toward regression; the steady, persistent downward curve of the rural distribution, indicating regular, systematic regression—these are the main points to be noted.

The final exhibit of Iowa statistical data is the historical material relating to rural property in two counties, Woodbury, 1907-1927, and Story, 1916-1927. As was suggested earlier in this chapter, these data cannot be expected to contribute in a large way toward the primary objects of this study; but, being available, they have been analyzed with thought that they might furnish information of an interesting, even though secondary, character. The results obtained have been curious, and, to a degree, inexplicable.

Table IX and Chart IX present the two major assessment index figures for both counties in chronological order. From 1916, the

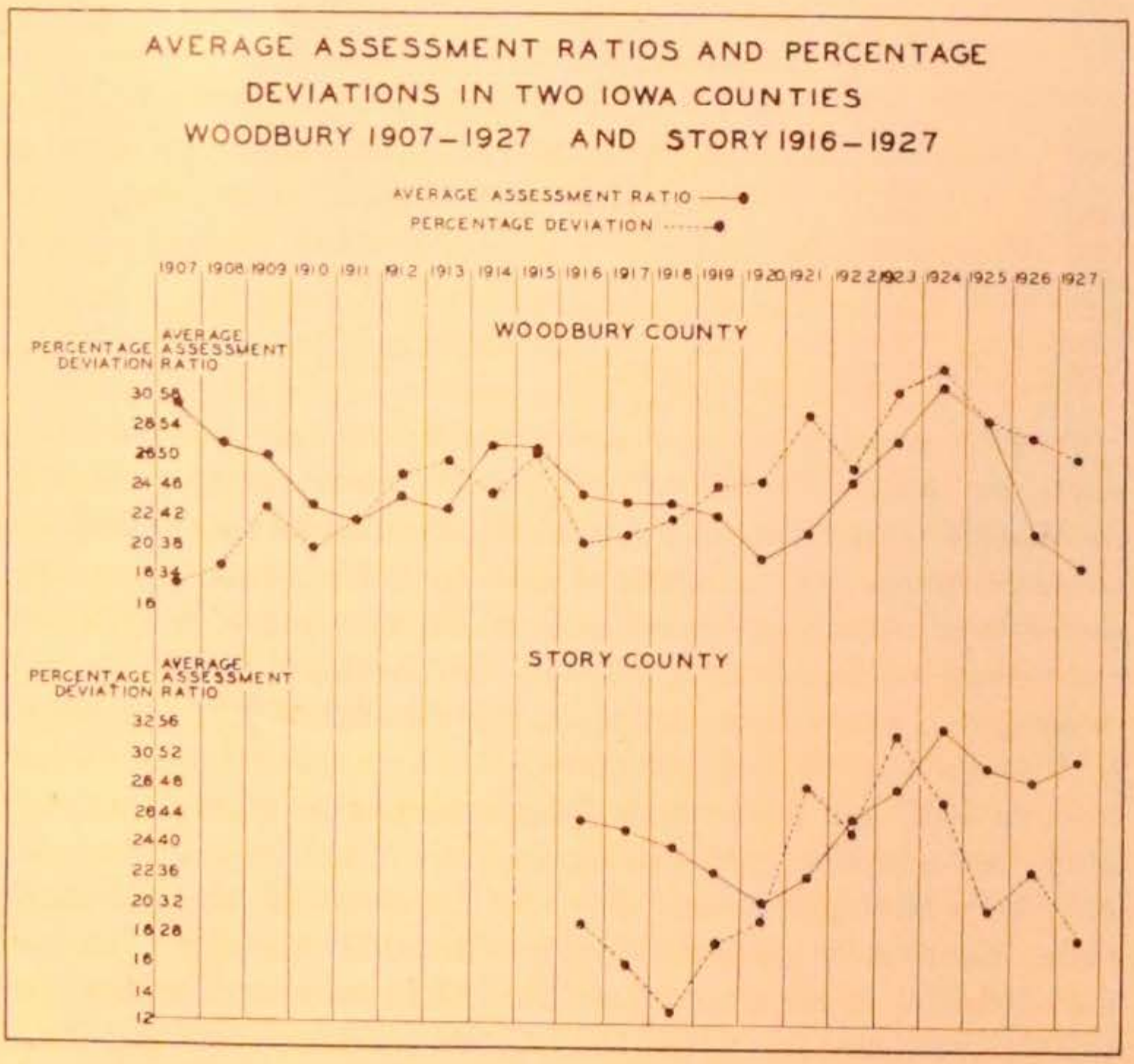


CHART IX

year in which the Story County record begins, to 1927, the synchronization of the indices for the two counties is nearly complete. This circumstance tends to inspire increased confidence in the reliability and representative character of these statistical samples.

TABLE IX

AVERAGE ASSESSMENT RATIOS AND PERCENTAGE DEVIATIONS IN TWO IOWA COUNTIES, WOODBURY 1907-1927, AND STORY 1916-1927

	WOODBURY		STORY	
Year	Average Assessment Ratio	Average Percentage Deviation	Average Assessment Ratio	Average Percentage Deviation
1907	57.19	17.56		
1908	51.83	18.87		
1909	50.25	22.51		
1910	43.84	19.96		
1911	41.47	21.73		
1912	44.80	24.75		
1913	43.33	25.71		
1914	51.67	23.69		
1915	51.32	26.29		
1916	45.08	20.36	43.58	18.70
1917	44.13	20.85	42.11	16.01
1918	44.03	21.85	39.60	12.93
1919	42.35	24.11	36.46	17.47
1920	36.66	24.52	32.66	19.01
1921	39.98	28.89	36.00	28.08
1922	47.14	25.27	43.54	24.90
1923	52.49	30.63	47.44	31.58
1924	59.48	32.01	55.35	27.01
1925	54.98	28.54	50.72	19.79
1926	52.92	21.05	48.88	22.57
1927	50.26	18.80	51.70	17.81

It will be observed that the average assessment ratio figures move in rather clearly defined cycles which have a negative correlation with land price cycles. As might be anticipated, assessed values rise to a lesser degree and with a time lag, as compared with market prices of land on the upswing of a cycle, and the reverse of this situation obtains on the downswing. Thus, in Woodbury County, the decline in the assessment level from 1907 to 1911 reflects rising market prices; the jumps in the assessment level in 1912 and 1914 result from increases in assessments made in the odd-numbered years just preceding, in the face of practically stationary land prices; and the wartime boom in land values explains the drop in assessment ratios from 1915 to 1920. The postwar deflation is responsible for mounting assessment ratios from 1920 to 1924; and from 1924 to 1927 the declining curve may be attributable to a firmer market for land, to decreases in assessed

values, or, possibly, to a bias in the sale consideration figures due to the tendency for the non-forced sales of land to be restricted to those tracts for which the sellers have been fortunate enough to secure prices above the level of offers freely made at that time for similar parcels.

The average percentage deviation figures are susceptible to no such simple, straightforward explanation. In both counties this index moves in irregular cycles that, at first glance, seem to partially correlate with the cycles of the assessment ratio figures. Upon investigation, however, it is found that in eleven of the twenty years in Woodbury County and in six of the eleven in Story County the two indexes move in opposite directions. Moreover, there is no definite time sequence in the movements of the two curves. Thus this apparent correlation turns out to be only an optical illusion, attributable to vagaries of the data that are emphasized by graphical presentation. Incidentally, if there had been a consistent correlation between the assessment level and the amount of departure from uniformity in assessment, the authors are frank to admit that they would have been at a loss to offer any adequate explanation of such a relationship.

On the basis of abstract reasoning, a good case can be made for the largest deviation figures being associated with the years of greatest or most rapid changes in land values. Once completed, the assessed values will remain unchanged for a two-year period. If, during that period, market prices of land rise rapidly, an analysis of sales data may show larger apparent, although unreal, inequalities in assessment as compared with previous years. Such distortion of data would be equally probable in the presence of rapidly declining market values. It is possible that the peaks of the deviation curves, reached in 1923 in Story County and in 1924 in Woodbury County, coincide in point of time with the most precipitous declines in land values in these districts. Yet, on the other hand, there is no consistent tendency for the deviation figures to mount during periods of advancing prices. Nevertheless, the striking similarity of the deviation curves of the two counties since 1918 seems to imply the presence in the situation of some underlying causal factor, rather than that the data have been influenced by chance alone. One conclusion, at least, is indisputable: such historical assessment data are not to be explained in any easy,

offhand fashion. A comprehensive interpretation of this sample would necessitate nothing short of a most careful investigation of the changes in land values in these counties, a detailed review of the several assessments made within the twenty years, and a critical examination of each transfer included in the data. It is questionable whether the information finally obtained would be of sufficient moment to justify the undertaking of any such intensive investigation.

Summary of the Iowa Assessment Situation

As an added precaution against misunderstanding, it may be well to state again that all analytical discussion and statistical material contained in this chapter relates to the Iowa assessment situation as it existed prior to the changes made in 1929.

The assessment machinery of Iowa, as it existed in 1927, constituted an example of extreme fiscal administrative decentralization. Knowing this, one is not surprised to find that assessment conditions within the state are many degrees removed from a reasonable standard of perfection. The least satisfactory aspects of the situation are: first, the reduction of the average assessment level throughout the state to slightly less than 50% of full value; second, the very large inequalities in assessment of individual properties in cities and towns; and third, the tendency to assess regressively, clearly apparent in cities and towns, and evident in an even more pronounced form with respect to rural property. However, there are two bright spots that relieve an otherwise dark picture. The first of these is that the average level of assessment of all classes of property—city, town, and rural—is approximately the same, a circumstance which is the more surprising because of the absence of strong, centralized administration; and the second, the relative uniformity in the assessment of rural property. Although the assessment of rural property is far from approaching complete uniformity, it compares advantageously with the extremely inequitable assessment of urban property.

A minor weakness of the Iowa situation is the too wide variation in the assessment levels of individual cities and towns, a condition that is always to be regarded as unwholesome. However, Iowa appears to be no more unfortunate in this respect than the average state. With the exception of a few counties that are distinctly out of line, there is comparatively little variation in the assessment

levels of rural property among counties of the state. The outstanding weakness in the assessment of rural property is the consistent tendency to assess regressively.

Making a comparative summary of the Iowa situation, it may be said that city and town property is assessed with the same degree of inequality as is like property in Indiana,* which shares with Iowa the foot of the list among the states covered by this study; rural property, on the other hand, is more equitably assessed in Iowa than in any other state studied except Wisconsin. This variation as between city and country must not be interpreted as meaning that municipal assessors are either less conscientious or more inexpert than are rural assessors: the locally elected assessor is much the same everywhere, whether in city or in country, and whether in Iowa or in any other state. Conditions in cities and towns are the result of the two fiscal sins of inexpert assessment and administrative decentralization in the face of a complex situation. Iowa rural property, on the other hand, because of its uniform and homogeneous character, has suffered less from this faulty assessment system. If the task of assessment be sufficiently easy, an assessor cannot go very far astray, no matter how unskilled he may be.

The next biennial assessment of real estate, in 1931, will be the first to be made under the direction of the State Board of Assessment and Review. It would be altogether unfair, of course, to expect this Board to remedy all or any major part of the ills resulting from over seventy-five years of mal-assessment during a single assessment period. It is to be hoped, however, that each succeeding assessment will witness material improvement in previously existing conditions.

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*See Chapter VI.

CHAPTER III

STATE OF WISCONSIN

The Assessment System

The Wisconsin assessment system involves five readily distinguishable parts or administrative branches; namely, The Wisconsin Tax Commission, the assessors of income, the local assessors, the local boards of review, and the county equalization boards. Of these five, the first two are practically a unit as to the performance of duties; each of the last three, on the other hand, functions semi-independently of the other four. The place of each of these agencies in the Wisconsin system of assessment will be briefly indicated.

The Wisconsin Tax Commission is the formal head of the state's tax system. Established in 1899, it was reorganized and expanded as to powers and functions in 1905, and has existed since the latter date with no substantial changes in its form of organization. It is composed of three members, not all of whom may be of the same political affiliation, appointed for terms of eight years by the Governor, with the advice and consent of the Senate, at annual salaries of $5,000. No attention will be given here to the numerous and important duties of the Commission except those which relate directly to the assessment of realty.

The only property over which the Commission has original assessment jurisdiction is that of public utility companies that operate in more than one assessment district of the state, and the property of all street railway companies; railroads and conservation companies are included in this category, but telephone companies are exeluded.

The Commission's power with respect to the work of the local assessors is advisory, rather than mandatory. It has general supervision of the assessment process and of all assessors, and prescribes the blanks and forms to be used by them. It may not order reassessments on its own initiative. However, at any time owners of five per cent of the taxable property in any district may petition for a general revaluation of the district, upon receipt of which the Commission will order a hearing. Then, if the Commission is

convinced that the existing assessment does not comply with the provisions of the law, and that public interest will be advanced by a reassessment, it orders such a re-appraisal and appoints its own valuation experts to do the work. Such reassessments are ordered infrequently, however. A recent amendment (1929) permits the Commission, in lieu of ordering an immediate reassessment, to assume the responsibility of making one or more succeeding assessments. This plan should ordinarily be less expensive and, in many cases, equally satisfactory to aggrieved persons.

Legal provision is made for appeals by individual taxpayers to the Commission. Any person, within twenty days after adjournment of the local board of review, may petition the Commission for a revaluation of his property, and it disposes of the case in whatever manner it deems equitable. In 1929, about thirty-five such applications were presented to the Commission. Furthermore, any three persons may petition for a revaluation of any parcel of property, not their own; as might be anticipated, such petitions are infrequently filed.

As a result of its unusual method of apportioning the state property tax, Wisconsin is able to dispense with the services of a state board of equalization. However, the Tax Commission serves in an analagous capacity, as will shortly be explained. The general state tax, although computed in totality as a millage on the entire state assessment, is levied, not as a flat millage rate on all property, but as a definite lump sum of dollars against the individual counties. The task of apportioning the total to be raised as among the seventy-one counties falls to the Tax Commission. In order to effect an equitable distribution of the burden, it attempts to arrive at figures of true and full value of all property in each county. These figures are determined by comparisons of sale values and assessed values, and by estimates made by the assessors of income. The amount of the levy as finally fixed by the Commission for any one county bears the same relation to the total state levy as does the estimated full value of all property in that county to the estimated full value of all property in the state. It was to facilitate the performance of this apportionment function that the Tax Commission developed the Wisconsin system of collecting and utilizing sales and assessment data, the system, it may be noted, that is the most comprehensive of its kind and the most carefully planned of those in use at the present time.

The assessor of income is one of the unique features of the Wisconsin tax system. The state is divided into twenty-two districts, in each of which is located an assessor of income. These officials are appointed by and are directly responsible to the Tax Commission. Their major duties are three: first, to assess the state individual income tax; second, to supervise the local assessors; and third, to compile sales and assessment data and to prepare recommended values of property in their districts to submit to the Tax Commission and to the county boards of supervisors. In the performance of the last named duty they serve merely as field workers for the Commission. Each assessor of income is allowed such assistance in the form of deputies as the size and population density of his district make necessary.[1] With respect to his duties relating to property assessment, the assessor of income is the direct, local representative of the Tax Commission. Although lacking mandatory powers over the local assessors, he has full and effective supervisory powers. He calls a meeting annually of all assessors in his district for purposes of discussion and instruction, usually in April, prior to the opening of the assessment period on May 1. He spends as much time as possible doing field work during the assessment season.

If he deems any local assessor in his district to be either grossly incompetent or clearly violating any legal provisions in the performance of his duties, the assessor of income is empowered to file a complaint against him with the circuit judge of the district. The case is then placed in the hands of the local prosecuting attorney for trial, and power to issue an order of removal rests with the judge. Although no formal removals have been effected during recent years, the threat or anticipation of such legal action has been sufficient to secure the resignations of several unsatisfactory local assessors.

All Wisconsin property, with the exception of those specified public utility properties mentioned previously, is subject to assessment by the 1,789 local assessors of the state. Each local subdivision—that is to say, each city, village, and town (township)—has its own assessor, elected by popular vote in every case except in

[1] In about one-half of the districts there are deputies who are in charge of all property assessment work. Although these deputies are technically subordinate to the assessors of income, in fact there is practically complete separation of functions.

a few of the larger cities where selection is by appointment. The term of office is usually one year and the customary compensation ranges from $3.00 to $5.00 per day for the time actually devoted to assessment work.[1]

Since one-fourth to one-third of the local assessors fail of re-election each year,[2] it is evident that the majority of the group are untrained and relatively inexperienced in the performance of their duties.

Only in the cities is it customary for the local assessors to have the assistance of deputies. Furthermore, the annual assessment is as of May 1 and the assessors have usually concluded their work by the last Monday in June. These two facts, considered together, point rather definitely to the superficial character of much of the work of local assessments. Only with difficulty has the Tax Commission compelled many assessors to secure the minimum of information regarding property that is sought in connection with the use of the prescribed standardized assessment forms.

There are in Wisconsin the same number of local boards of review as there are local assessors, that is, one to each local governmental district. In cities and villages these bodies are composed of members of the city council or the village board of trustees, together with other local officials, the exact composition being determined in each case by local ordinance. In towns the boards of review consist of the town clerk and the three members of the town board of supervisors. They convene on the last Monday in June, and remain in session as long as is necessary to hear all complaints. The Wisconsin law evidently intends that the board of review shall be a quasi-judicial body, since it provides that it shall raise or lower individual assessments only on the basis of sworn oral testimony which is delivered before it and reduced to writing by the clerk. In spite of this clear legal provision, local boards not infrequently take it upon themselves illegally to review and effect wholesale changes in the entire assessment rolls. It is an open question as to whether the net results of the activities of the typical board show a positive or a negative balance.

Each Wisconsin county board of supervisors is *ex-officio* the "county board of equalization," but its duties as such are not

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[1]The only exceptions to the above are the assessors of Milwaukee county, who are paid salaries not limited by statute.

[2]In 1930, out of the 1,789 assessors, 453 were newly elected.

those customarily assigned to a body so designated. The state avoids the necessity of making provision for equalization in the ordinary sense of the word as among the districts of each county, since it has provided that the county property tax is to be certified to the local divisions as a lump sum of dollars, rather than in terms of mills. This proviso regarding the county levy parallels that made for the allocation of the state levy as between counties. At its November meeting the board is required to "assess" the county, that is, to determine the true and full value of property in each city, village, and town. Customarily this duty is performed quickly and simply by accepting and placing the board's stamp of approval upon the local district valuations as recommended by the assessor of income, acting for the Tax Commission. Occasionally a rebellious board refuses to accept the recommended figures, and attempts to arrive at valuations on its own account. Such situations usually arise as outcomes of conflicts between rural and urban interests. Due to this, and to the other obvious limitations under which a board must operate in this connection, there appears to be no reason for believing that a county board will ordinarily be able to improve upon the values as fixed by the assessor of income.

Wisconsin Assessment Data

Through the courtesy of the Wisconsin Tax Commission, data covering 1,256 Wisconsin properties for the year 1927 were secured from the official records of the Commission. Of this total, 598 transfers were in three cities, 176 were in eleven villages, and 482 were transfers of rural properties in twelve counties. An attempt was made to obtain the rural data in counties that were sufficiently diverse as to soil, character of agriculture, and price of land to assure having statistical samples representative of the assessment conditions obtaining under varying circumstances and in several regions of the state.

Described as concisely as possible, the Wisconsin assessment situation in 1927 was as follows:

City Property:	
Average assessment ratio (number basis)	72.48
Average assessment ratio (value basis)	67.37
Average percentage deviation (number basis)	25.12
Average percentage deviation (value basis)	17.31

Village Property:
Average assessment ratio (number basis) 83.05
Average assessment ratio (value basis) 80.91
Average percentage deviation (number basis) 18.91
Average percentage deviation (value basis) 16.83
Rural Property:
Average assessment ratio (number basis) 92.43
Average assessment ratio (value basis) 89.71
Average percentage deviation (number basis) 16.35
Average percentage deviation (value basis) 15.08

The above figures, it should be noted, have been derived from the summary figures appearing in Tables X, XI, and XII. To illustrate: 72.48 per cent, the city assessment level for the state on the number basis of calculation, was secured by taking an average of the like figures for the three Wisconsin cities. All the state figures just presented were obtained by this procedure. Because of considerations brought out in Chapter I, unweighted averages have been taken in every instance. It should be noted that the Wisconsin data, although constituting fairly adequate samples for the individual assessment districts from which they are taken, are rather scanty with respect to the situation over the entire state: hence these state figures are not precise, but are approximations that are probably reasonably accurate.

If all classes of Wisconsin property be considered together, it is apparent that the assessment level of the state is about 80 per cent of full value. This is a good showing, being far above the Iowa level and appreciably above most other states. A curious feature of the situation is the gaps of almost exactly ten points that appear when the three classes of property are arrayed in order of height of assessment level, rural property being about 90 per cent, village property about 80 per cent, and city property about 70 per cent. A reasonable inference from this is that Wis-

TABLE X
SUMMARY OF ASSESSMENT DATA FOR THREE WISCONSIN CITIES, 1927

City	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio: No. Basis	Average Assessment Ratio: Value Basis	Average Percentage Deviation: No. Basis	Average Percentage Deviation: Value Basis
Oshkosh	200	$ 811,893	$604,925	79.18	74.20	26.88	14.47
Eau Claire	198	614,945	383,120	62.52	61.95	26.78	23.41
Racine							
All Properties	200	1,094,299	722,650	75.75	65.97	21.70	14.05
Business Prop.	22	517,092	346,500	66.41	66.92	15.37	11.26
Residence Prop.	178	577,207	376,150	76.90	65.11	22.11	15.99

TABLE XI

SUMMARY OF ASSESSMENT DATA FOR ELEVEN WISCONSIN VILLAGES, 1927

Villages	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio		Average Percentage Deviation	
				No. Basis	Value Basis	No. Basis	Value Basis
Prairie du Sac Viroqua Mauston Chilton	55	$ 142,830	$117,600	81.91	82.40	14.67	14.44
Waterford Whitewater Port Washington Amery	60	160,318	104,560	69.00	65.06	24.88	21.41
Berlin Medford Darlington	61	144,022	137,300	98.25	95.27	17.18	14.63

TABLE XII

SUMMARY OF ASSESSMENT DATA FOR TWELVE WISCONSIN COUNTIES, RURAL PROPERTY, 1927

County	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio		Average Percentage Deviation	
				No. Basis	Value Basis	No. Basis	Value Basis
Columbia	55	$ 374,075	$295,296	84.64	79.19	23.44	17.06
Dane	56	471,905	381,795	91.04	80.58	25.66	28.61
Green	35	310,756	305,920	96.71	98.46	12.97	9.18
Green Lake	27	179,775	169,385	93.74	94.17	12.67	10.78
Jefferson	23	130,100	119,565	92.13	91.83	11.06	11.36
Juneau	29	79,750	67,442	90.59	84.72	16.30	17.73
LaFayette	33	255,850	252,234	99.97	98.79	8.08	7.50
Richland	22	108,550	88,570	80.73	82.14	11.00	11.37
Rock	50	390,745	352,375	87.80	89.68	23.69	21.03
Sauk	46	253,590	223,715	88.54	88.44	14.17	15.25
Vernon	72	315,140	265,250	86.06	84.14	17.02	14.05
Waushara	34	109,325	114,350	117.26	104.37	20.12	17.01

consin assessors have an 80 per cent level in mind as a goal, and that the departures to either side of this level are due to the recent changes in value of city and rural properties. In the villages, where property values have remained relatively constant, the 80 per cent level has been maintained; in the cities, property has been appreciating during the past decade and assessed values have lagged behind market values; in the rural districts, where property has been declining in price, assessors have not made corresponding reductions in valuations.

It may be observed that the assessment level and percentage deviation figures obtained by the use of the number of transfers

basis of calculation differs in every case by several points from those obtained by the use of the value of property basis. The disparity is greatest in the case of city property and least with respect to rural property, a condition that is likely to occur frequently, since the opportunity for such a spread varies directly with the variation in the price of the properties included in the data. As was explained in Chapter I, neither basis of calculation, taken alone, is altogether accurate; the "true" assessment level and percentage deviation in each case are probably about midway between the two figures.

Wisconsin, like other states, assesses rural property more uniformly than city property. Wisconsin villages are only slightly inferior to the rural areas in this respect, but the cities are markedly so. In Wisconsin, as elsewhere, the more complex the assessment conditions, the greater become the inequities resulting from inexpert assessment.

A summary of the assessment data for the three Wisconsin cities, Oshkosh, Eau Claire, and Racine is presented in Table X, and in Chart X. It is to be noted at once that property in these cities is assessed on the average at a considerably greater proportion of its sale value than is property in Iowa cities, and, as will be shown later, than is city property on the average in the other states covered by this study. Oshkosh and Racine approach an assessment level of 80 per cent, although Eau Claire is appreciably lower. In every case the average assessment ratio is lower when the basis of calculation is the value of property than when it is the number of transfers.

One striking feature of the assessment situation in these three cities is that the index of deviation from uniformity is greater in every instance upon the number basis of calculation than upon the value basis. This condition is especially pronounced in Oshkosh and Racine. This fact points strongly to the conclusion that the higher valued properties are assessed more uniformly than are properties of smaller value. Such an interpretation is borne out by examinations of the scatter diagrams appearing in Table XIII, and by the fact that in Oshkosh 37 per cent of the total value of the 200 properties falls within the limits of the 66-70 class. Further evidence is at hand in Racine, where 90 per cent of all property

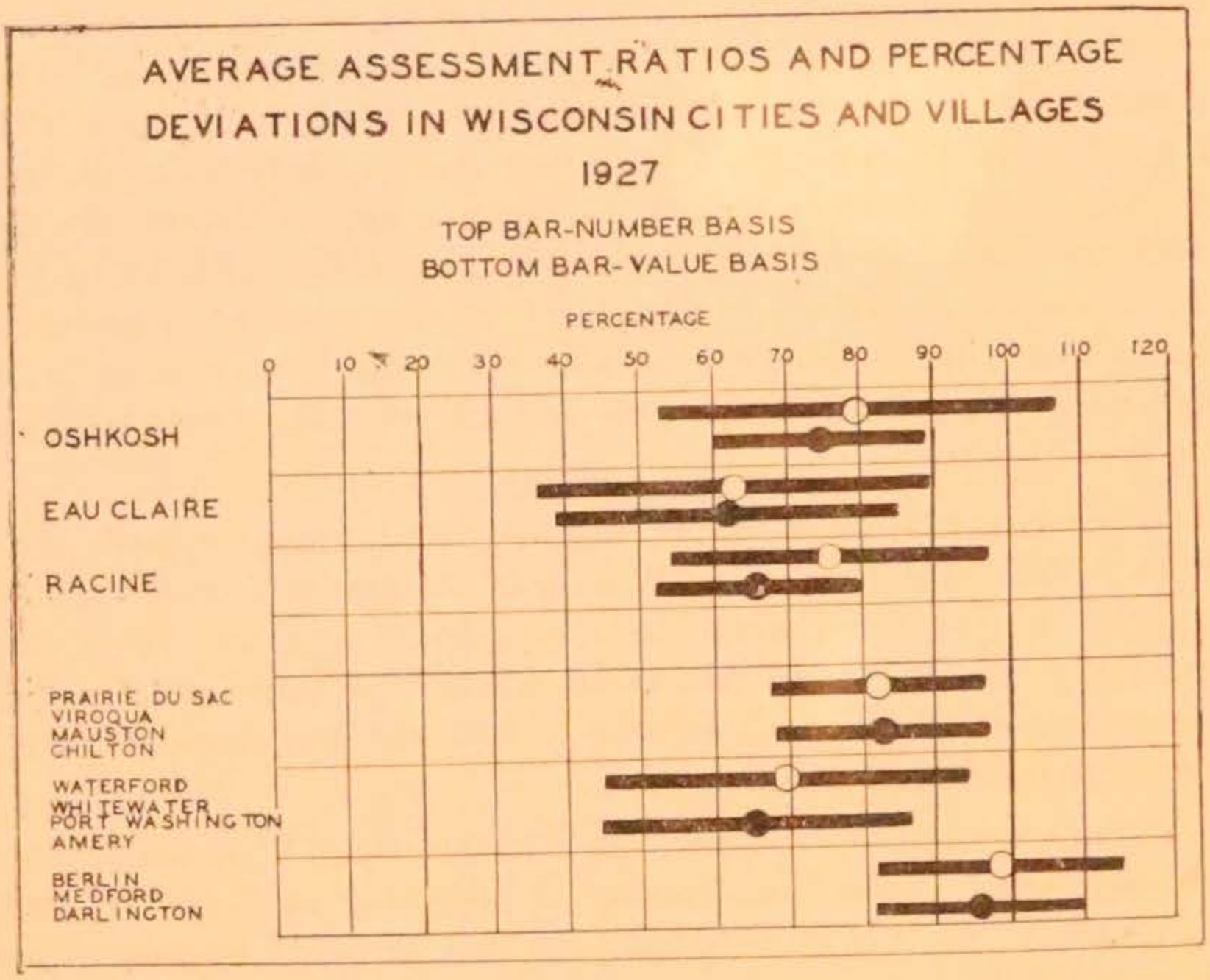

CHART X

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

values are found to have a range of 38-88 per cent, although these limits must be changed to 43-118 per cent to include 90 per cent of the total number of transfers. In Racine, also, business properties have a much smaller deviation than do residence properties. Only in Racine were enough sales of business properties available to warrant separate consideration of this type of property. On the basis of this single example it would be decidedly unsafe, however, to conclude that business properties are assessed more uniformly than are other types in all Wisconsin cities. However, it appears to be a reasonably safe generalization that, to the extent that business properties are assessed with greater uniformity, this treatment is due to the fact that they are properties of greater

TABLE XIII

RELATION BETWEEN THE PRICE PER ACRE AND ASSESSMENT RATIO IN TWO WISCONSIN CITIES, 1927

RACINE

Value Class	Assessment Ratios													
	35	45	55	65	75	85	95	105	115	125	135	145	195	Total
$ 251—$1,250		1	3	6	26	19	15	2	8	3	2	1	1	87
1,251— 2,250		1	5	3	4	7		1	1					22
2,251— 3,250	1		3	1		1	1					1		8
3,251— 4,250	1	1		1		3								6
4,251— 5,250			3	2	2									7
5,251— 6,250		1	9	9										19
6,251— 7,250	1		5	8										14
7,251— 8,250	1		2	2	1									6
8,251— 9,250		1	3	3										7
9,251—10,250	1		2	1										4
10,251—up	1	1	2	10	5	1								20
Total	6	6	37	46	38	31	16	3	9	3	2	2	1	200

EAU CLAIRE

Value Class	Assessment Ratios													
	25	35	45	55	65	75	85	95	105	115	125	175	195	Total
$ 0—$ 250		2	1		2			1						6
251— 1,250	2	7	14	13	8	7	4	6		3	1		1	66
1,251— 2,250	1	4	2	8	3	9	2	3	1			1		34
2,251— 3,250		2	6	8	5	3	1							25
3,251— 4,250	1	1	4	10	4	2	2			1				25
4,251— 5,250		2	3	2	3	1	1		1					13
5,251— 6,250		1		6	1									8
6,251— 7,250		1	2		3	1								7
7,251— 8,250		1	1	1	1									4
8,251—up	1	1	1	1	2	2	1	1						10
Total	5	22	34	49	32	25	11	11	2	4	1	1	1	198

than average value and as such share in the treatment accorded all properties of large value, rather than to the mere fact that they are business as distinguished from other types of property.

A graphic presentation of the distribution of Eau Claire property at all assessment levels is given by the rectangular frequency diagrams, in Chart XI. These serve to facilitate the making of comparisons between the number basis approach to the situation and the value basis view. The customary tendency for the range of the distribution to be disproportionately extended to the right, that is, for the highest assessment ratio to be more distant from the mode than is the lowest ratio, is readily apparent. The Eau Claire situation, as shown by Chart XI, may be regarded as typical of the assessment pictures obtainable in other Wisconsin cities.

The Wisconsin village data, with an average of only sixteen transfers per village, was not readily amenable to the statistical

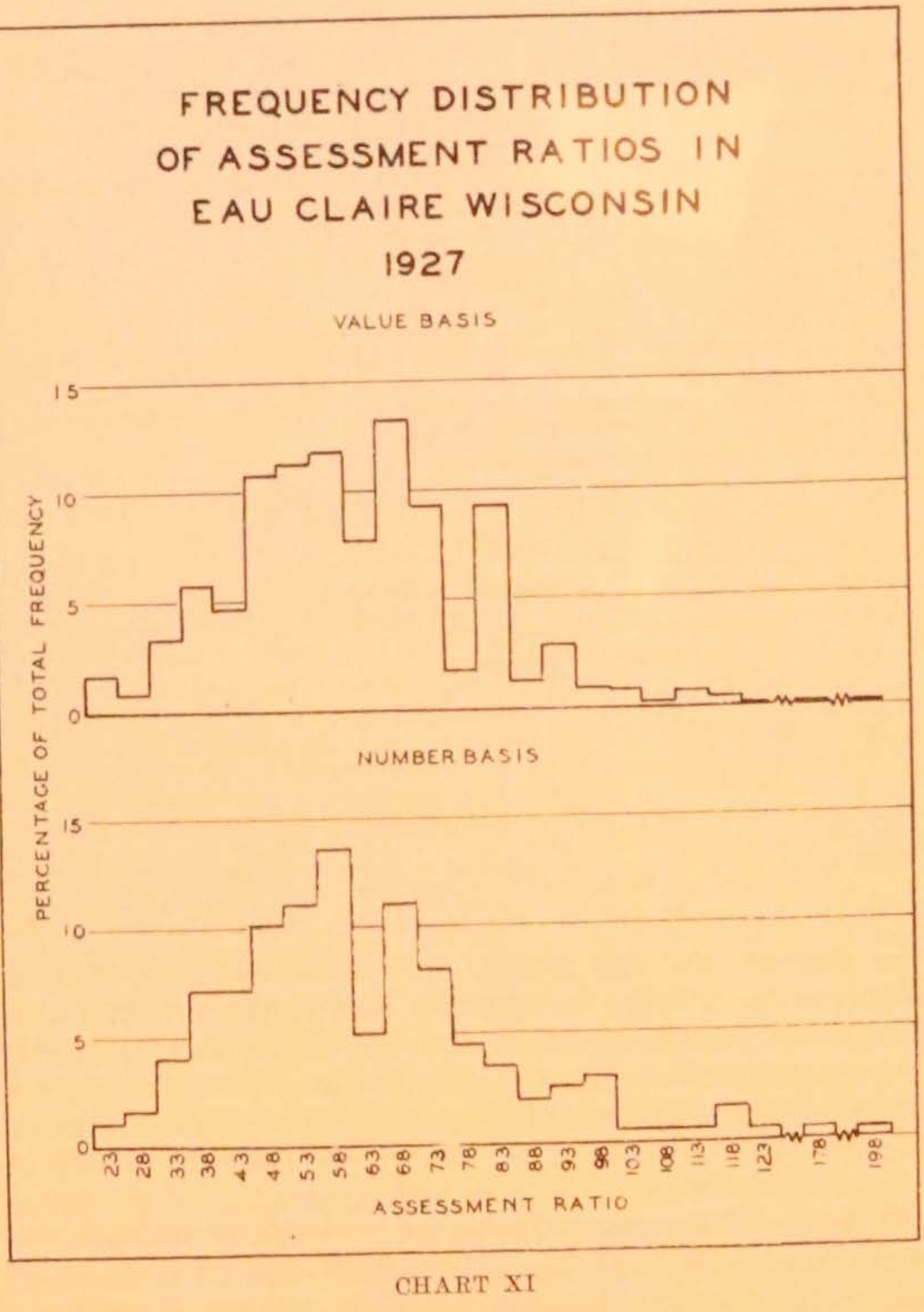

CHART XI

treatment accorded other data. Because of the smallness of the sample for each village, it was evidently not worth while to expend the time and energy necessary to analyze each individual sample; yet, on the other hand, if the entire 176 transfers had been thrown together and collectively treated as a unit sample, the results of

the analysis would have been impossible of legitimate comparison with other final figures. (See Chapter I, page 16.) A reasonably satisfactory escape from the dilemma was found by arranging the eleven villages into three groups, and analyzing each group as a unit sample. Such procedure was justified in this instance by the homogeneous character of the samples that were so combined, or, in other words, because care was exercised that the villages grouped together were similar as to average assessment ratio, range of assessment, average deviation from uniformity, and price of property. Although the combining of sample assessment data from different tax districts is generally to be condemned, it may

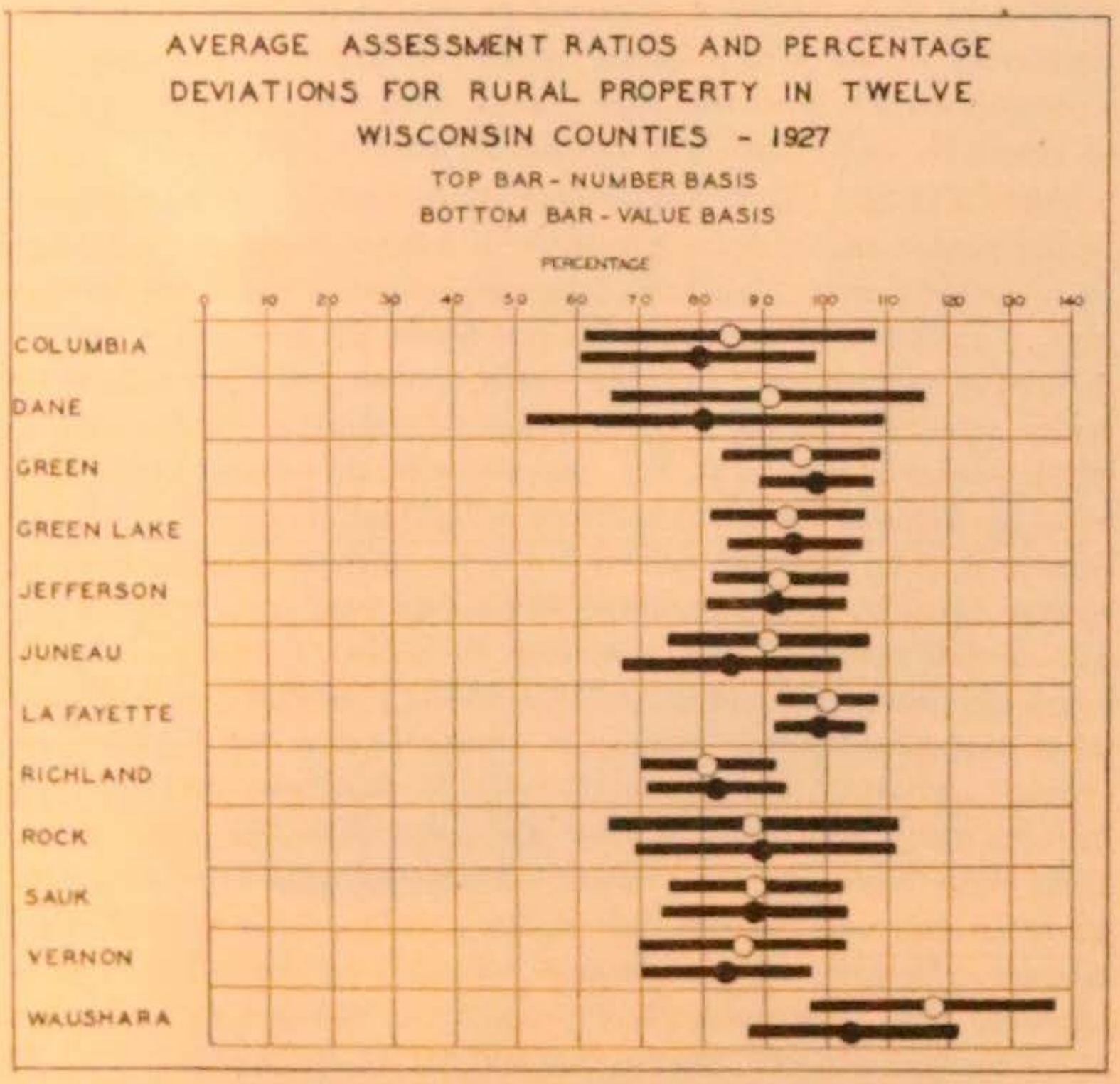

CHART XII

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

occasionally be condoned in such exceptional cases as the one at hand.

Assessment conditions in Wisconsin villages are summarized in Table XI, and Chart X. If the adequacy of the statistical samples be granted in both cases, it appears that the average assessment ratio varies to a greater extent between individual villages than between individual cities, the extreme ratios among the cities being 62.52 per cent and 79.18 per cent, and the extremes among the grouped villages being 65.06 per cent and 95.27 per cent. Although the village percentage deviations are consistently smaller upon the value basis of calculation than upon the number basis, the spread is less than was found in the cities. This may be explained in small part by a tendency to assess properties of large value more uniformly in the villages than in the cities, but is probably due primarily to the fact that the village data cover only properties of relatively small value, as compared with the city data.

Table XII and Chart XII summarize the conditions with respect to the assessment of rural property in twelve counties. Although in one county only, Waushara, is the assessment level above 100 per cent, it does not in any instance fall below 79 per cent by either method of calculation. In other words, not only is Wisconsin rural realty assessed at a higher percentage of its market value than is rural property generally, but also there is surprising uniformity as to the level of assessment among individual counties. Quite the reverse is true, however, with respect to uniformity of assessment within counties, the percentage deviations ranging from 7.5 per cent in LaFayette to 28.61 per cent in Dane. This variation appears the greater, of course, because of the remarkably small minimum deviation figure. Dane, the county having the highest percentage deviation, surrounds the city of Madison, and its data include many properties of the distinctly suburban type—small areas with high per acre values. Doubtless this type of realty offers an especially severe test of the ability of the typical rural assessor. In spite of considerable variation among counties, it is apparent that Wisconsin rural property is assessed so uniformly as to class Wisconsin among the best states in this respect. It was suggested in Chapter I that a percentage deviation of 10 per cent is the minimum that may ordinarily be attained under the most favorable conditions; judged by this standard, Wisconsin

rural property with an average only slightly above 15 per cent fares rather well.

It may be pointed out that, with three exceptions—Dane, Juneau, and Waushara counties—the assessment levels obtained by the

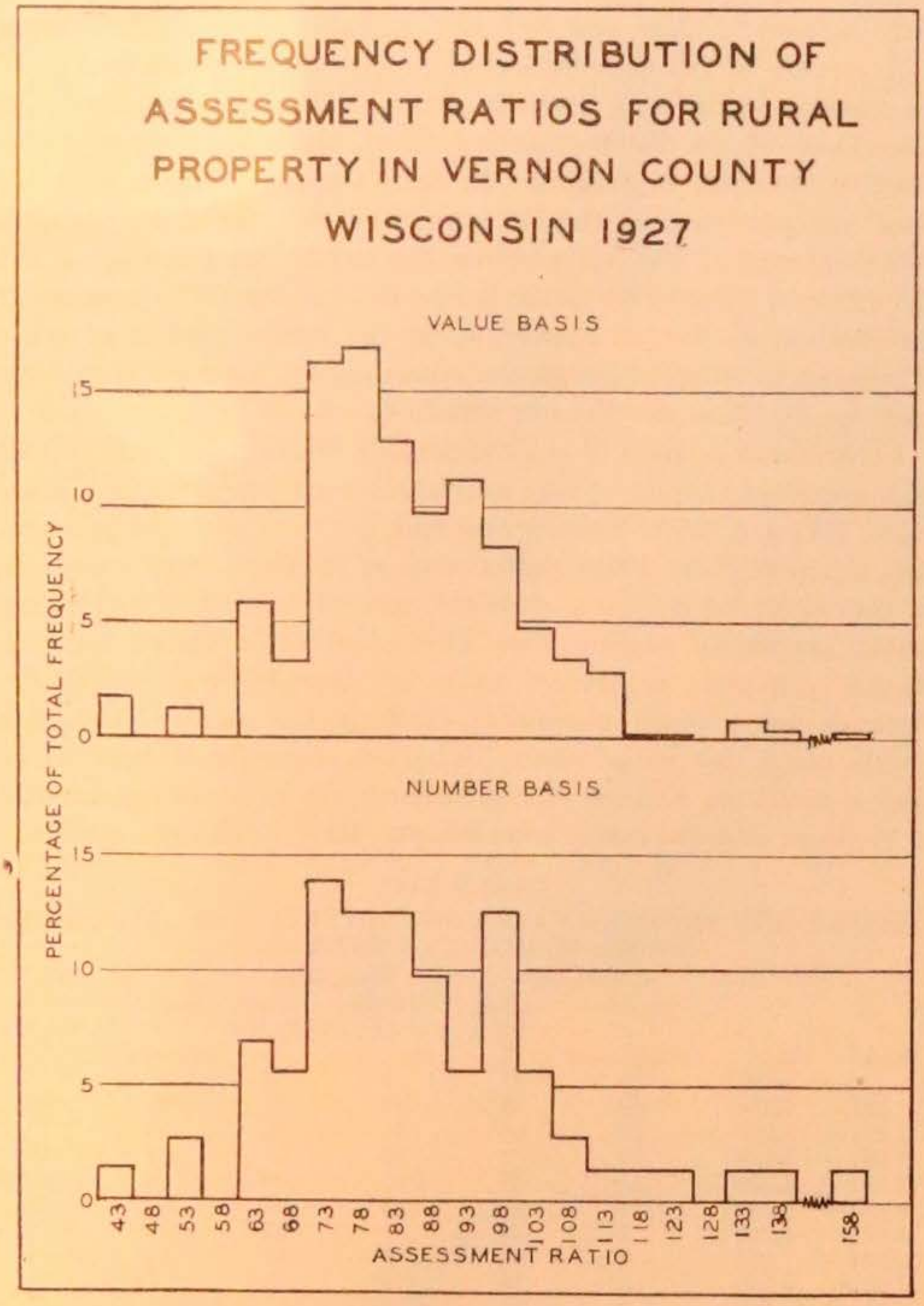

CHART XIII

number basis of calculation are nearly identical with those on the value basis; also the percentage deviation figures vary but slightly from one basis to the other. This is probably due both to the homogeneous character and size of the rural properties and to the relative uniformity with which they are assessed, not forgetting that the first of these two factors is a major cause of the second.

A picture of the distribution of property in Vernon county at all assessment ratios is given in Chart XIII. The regularity or smoothness of the distribution is evident, also the extent to which positive skewness is present. In fact, the chart shows a rather close approximation to the log normal curve type of distribution. The similarity of the two pictures, the one on the value basis and the other on the number basis, is also to be noted. The assessment distribution in Vernon county is, on the whole, typical of other Wisconsin counties, although the others do not have the regularity that characterizes the Vernon situation.

Information relative to the relationship between property values and assessment levels of city and rural realty is given in Tables XIV, XV, and XVI. Considering first the three cities, it is found that comparatively little regressivity is present. One exception to this is to be noted—a clear-cut case of regression in Racine among properties ranging from $250 to $6,250 in value; however, Racine properties of greater value are assessed very uniformly. Oshkosh has a mean assessment level on the number basis five points above the value mean, indicating that there must be at least a small net balance of regressivity, but it is not consistently in evidence over the entire price range. Eau Claire data give only

TABLE XIV

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL, WISCONSIN CITIES, 1927

Value Class	Oshkosh Number of Properties	Oshkosh Assm. Ratio %	Eau Claire Number of Properties	Eau Claire Assm. Ratio %	Racine Number of Properties	Racine Assm. Ratio %
$ 0—$ 250	40	91	6	56		
251— 1,250	60	75	66	66	87	89
1,251— 2,250	13	88	34	69	22	76
2,251— 3,250	22	76	25	57	8	74
3,251— 4,250	21	81	25	60	6	68
4,251— 5,250	11	61	13	60	7	65
5,251— 6,250	7	68	8	54	19	60
6,251— 7,250	8	90	7	58	14	60
7,251— 8,250	5	78	4	53	6	60
8,251— 16,250	9	73	8	59	17	60
16,251—up	4	77	2	73	14	66

TABLE XV

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL, TWELVE WISCONSIN COUNTIES, RURAL PROPERTY, 1927

Price Per Acre	Columbia No. of Prpts.	Columbia Assmt. Ratio	Dane No. of Prpts.	Dane Assmt. Ratio	Green No. of Prpts.	Green Assmt. Ratio
$ 0—$ 20	6	128%	1	108%	2	75%
21— 40	5	75	3		8	99
41— 60	10	86	8	114	10	100
61— 80	12	80	7	101	9	91
81— 100	8	83	8	103	2	
101— 120	6	77	4	90	1	120
121— 140	3	68	7	74	1	
141— 160	2	75	4	88	2	
161— 180			5	83		
181— 200			5	87		
201—up	3	86	4	40		
Total	55		56		35	

Price Per Acre	Green Lake No. of Prpts.	Green Lake Assmt. Ratio %	Jefferson No. of Prpts.	Jefferson Assmt. Ratio %	La Fayette No. of Prpts.	La Fayette Assmt. Ratio %
$ 0—$ 20	3	85	1			
21— 40	2	100	1		2	108
41— 60	7	98	1	96	1	
61— 80	4	90	5		9	103
81— 100	3	95	5	93	13	94
101— 120	6		2	85	5	105
121— 140		90	2	110		
141— 160	1		2	80	3	91
161— 180	1		1			
181— 200			1	83		
201—up			2			
Total	27		23		33	

Price Per Acre	Richland No. of Prpts.	Richland Assmt. Ratio %	Rock No. of Prpts.	Rock Assmt. Ratio %
$ 0—$ 20				
21— 40	1	95	4	108
41— 60	7	81	3	125
61— 80	7	82	8	101
81— 100	3	85	9	101
101— 120	1		3	78
121— 140	1	68	6	87
141— 160	2		3	75
161— 180			2	80
181— 200			12	59
201—up				
	22		50	

Price Per Acre	Sauk No. of Prpts.	Sauk Assmt. Ratio %	Vernon No. of Prpts.	Vernon Assmt. Ratio %
$ $—$ 20			2	130
21— 40	9	95	16	94
41— 60	6	77	18	81
61— 80	6	81	9	75
81— 100	10	97	11	84
101— 120	3	82	8	83
121— 140	4	75	3	92
141— 160	3	82	5	83
161— 180	5	85		
181— 200				
201—up				
Total	46		72	

Price Per Acre	Juneau No. of Prpts.	Juneau Assmt. Ratio	Waushara No. of Prpts.	Waushara Assmt. Ratio
$ 0—$10	8	94%	3	142%
11— 20	8	85	10	136
21— 30	3	85	9	115
31— 40	2	90	5	101
41— 50	2	80	1	85
51— 60			1	85
61— 70			2	90
71— 80	1			
81— 90	2	93		
91—up	3		3	88
Total	29		34	

TABLE XVI

RELATION BETWEEN THE PRICE PER ACRE AND ASSESSMENT RATIO IN TWO WISCONSIN COUNTIES, 1927

VERNON

Price Per Acre	Assessment Ratios 45	55	65	75	85	95	105	115	125	135	145	155	Total
$ 0—$ 20							1					1	2
21— 40		1	1	1	4	5	1		1	2			16
41— 60		1	2	6	5	3		1					18
61— 80	1		3	1	2	2							9
81— 100			3	3		2	3						11
101— 120				4	3		1						8
121— 140				2					1				3
141—up				2	2	1							5
Total	1	2	9	19	16	13	6	1	2	2		1	72

COLUMBIA

Price Per Acre	Assessment Ratios 45	55	65	75	85	95	105	115	125	135	145	205	Total
$ 0—$ 20			1		1				1		2	1	6
21— 40		2	1		1			1					5
41— 60			3	2	1	1	1	2					10
61— 80	1	2	1	1	3	2	1	1					12
81— 100		1		5	1	1							8
101— 120		1	1	1	2	1							6
121— 140		1	1		1								3
141—up		1		3				1					5
Total	1	8	8	12	10	5	2	5	1		2	1	55

a faint suggestion of regressivity—the least so of the three cities. Eau Claire, incidentally, furnishes an example of positive skewness that fails to entail regressivity. Table XIV shows that both Eau Claire and Oshkosh zig-zag as between higher and lower assessment ratios, but do not move persistently to lower levels on an ascending property price scale.

There is but scanty evidence of a positive correlation between the price per acre of rural land and the assessment ratio. The scatter diagrams for Columbia and Vernon counties are worthy of consideration in this connection as representative of the rural situation. Definite regressivity is apparent in two counties, Waushara and Rock; two others, Columbia and Dane, reveal it in small degree; none of the others show any consistent tendency to regress. There is considerable "jumpiness" or zig-zagging of ratios from one value class to another, but generally nothing more. Attention may be drawn to one curious item—the extremely low ratio, 40 per cent—that obtains for the Dane county properties selling for over $200 per acre. This is relevant to an observation previously made, concerning the erratic character of the assessment of unusual types of realty, such as truck-gardening areas, new subdivisions, summer cottages and other resort property, and the like. Such erratic assessment of specialized types of property is not, of course, confined to Wisconsin alone.

Because of the small price range of village properties, and also because of the grouping of their data, it was deemed to be neither necessary nor practicable to undertake any investigation of regressivity in the Wisconsin villages. The near identity of the value and the number means is ample proof of the absence of this particular assessment flaw.

The Wisconsin section of the Appendix includes complete frequency distributions of all original statistical data for the state.

Conclusions Regarding the Wisconsin Assessment Situation

The preceding examination of evidence has amply justified the conclusion that Wisconsin is one of the better assessed states of the nation; this, however, by no means indicates that it has approached perfection in this respect. The more commendable features of the present situation in the state include the relatively high assessment level, comparatively small dispersion among individual assessments—especially in the case of rural property, and the near absence of regressivity in the majority of districts. On

the other hand, the least satisfactory aspects are the variations among the average assessment ratios of city, village, and rural property; the wide variations in the assessment levels of the villages; the large average deviations of the cities; and the wide range of distributions in all cities and in some villages and counties. The good features are good both by comparison with other states and with an ideal situation; the bad features, however, are bad by comparison with the ideal, but distinctly less so when other states serve as the basis of judgment.

One might easily conclude that Wisconsin's rather satisfactory showing is attributable in large part to the excellence of her assessment machinery. However, a considered judgment dispels such an inference. In its major outlines, Wisconsin's assessment system differs but slightly from that found in the majority of other states at the present time. The elected local assessor is the official of original jurisdiction throughout the state. These officials are characteristically untrained and inexpert, with an abnormally high rate of turnover in office. There are only incidental variations between the organization, functions, and powers of the Wisconsin Tax Commission and of equivalent bodies in other states. The one unique official in the system, the assessor of income, is the offspring of the Tax Commission; although now an integral part of the whole, his continued importance and effectiveness must depend upon the attentive care and fostering direction of the Commission. One other unusual feature, the lump sum method of certifying the state levy, might easily be made to serve as an excuse for the neglect of conditions of mal-assessment by a spineless tax commission.

The real explanation of Wisconsin's superior assessment conditions is found in the functioning of its Tax Commission. The high quality work of its administrative bodies has given the state an enviable reputation in this respect, and the Tax Commission has aided materially in establishing and maintaining this tradition of excellence. As has just been remarked, the legal foundation of the Wisconsin Tax Commission differs but little from those of many other states, hence the source of its success must lie in the calibre of its members—in their ability, energy, and constructive leadership, and in the subsidiary institutions and practices that the Commission has founded and fostered. Certain other favoring circumstances must not be overlooked. The Wisconsin Tax Com-

mission has commanded the respect and support of the legislature and the people of the state generally. It has not been seriously hampered in the formulation and execution of policies by fear of political consequences or repercussions. Its powers and scope of activity have not been circumscribed by adverse court decisions. It has been able, under the civil service law of the state, to build up a staff of able, trained assistants—non-political appointees with permanent tenure of position. It has not suffered from shortage of funds with which to carry on its activities. Appropriations for the Commission for the fiscal year 1929 totaled $470,000, of which $300,000[1] were for general purposes and $170,000 for income tax verification work. Had the Commission been less fortunate in several or all of these respects, there can be no doubt but that its effectiveness would have been materially reduced.

It will be well to take note of a few of the activities of the Wisconsin Tax Commission that look directly toward the improvement of the assessment of realty. Mention has already been made of the comprehensive Wisconsin system of gathering sales data. Interestingly enough, this body of data has been utilized by the Commission primarily in connection with its task of apportioning the state levy. Thus it has come that the lump sum method of apportionment, which a less aggressive commission might easily have used as an explanation of and justification for its neglect of geographical inequalities of assessment, has by the Wisconsin Commission been converted into an opportunity to guard against the development of such inequalities in connection with the imposition of the state and county levies, and to set up valuation norms or signposts for the guidance of the local assessors. Largely in consequence of this policy of the Commission, the total assessed valuations as fixed by the local assessors in the majority of the counties consistently approximate 75-80 per cent of the valuations set up by the Tax Commission.[2]

Reference has also been made to the advisory and supervisory relations that the Tax Commission has with the local assessors through its immediate representatives, the Assessors of Income. The annual meetings with the Assessors of Income have a not inconsiderable educational value for the local assessors. Both as

[1]Of this $300,000, approximately $100,000 was devoted to "equalization" and property assessment supervision work.

[2]Report of the Wisconsin Tax Commission, 1928, pp. 110-121.

individuals and as a group, local assessors are given all possible assistance throughout the year. They are urged to familiarize themselves with the information obtainable from the sales cards on file at Assessors' of Income offices. Early in 1930 an Assessor's Manual, compiled under the direction of Judge Rosa of the Wisconsin Tax Commission, was published; this contains careful instructions and detailed information covering all phases of the work of local assessors in the state. The Tax Commission has drafted and introduced into use a superior set of assessment blanks and forms, one notable example of which is the Cleasby Field Book, a sample page of which is presented in Section F of the Appendix. The Commission has insisted upon the separate assessment of land and improvements as provided by law, and also upon the classification of all rural acreage.

That these several practices and policies of the Wisconsin Tax Commission have had a salutary effect upon assessment conditions within the state is evidenced by the statistical material presented earlier in this chapter. That the granting of additional powers to the Commission, notably the power to dismiss local assessors for cause and the power to order a re-assessment of any taxing district on its own initiative without the necessity of a local petition, would result in even greater uniformity of assessment throughout the state, is at least a reasonable inference. This assumption, of course, is predicated upon maintenance of the present high calibre of the members of the Tax Commission, and upon the continuance of the favoring circumstances that have attended the operations of the Commission during recent years.

CHAPTER IV

STATE OF MINNESOTA

The Assessment System

Viewed in outline, the Minnesota assessment system is both simple and orthodox. It consists of four parts; the Minnesota Tax Commission; the local assessor; the local board of review; and the county board of equalization. Although the tax system of the state is not without novel features, none of them relates directly to the machinery of assessment.

The Minnesota Tax Commission has behind it a record of twenty-three years of service, a record that has caused it to be held in high esteem both in Minnesota and elsewhere. It is composed of three members who are appointed by the Governor, subject to confirmation by the Senate. The term of office is six years, and the annual salary is $4,500. The Commission is authorized to exercise general supervision over the administration of the assessment and taxation laws of the state, and possesses broad mandatory powers in connection with the performance of these duties. Its position has been further strengthened by favorable court decisions relative to the scope of its powers. It is authorized to make the annual ad valorem assessment of the personal property of all electric light and power and all telegraph companies, also of street railway companies operating in more than one assessment district. In 1930 the state appropriation for the support of the Commission was $49,790.

In connection with its supervisory duties, the Commission arranges annual meetings of the elected local assessors in each county for purposes of instruction and direction. It prescribes standardized forms and blanks to be used by assessors and other officials in the assessment of properties. At least once every two years each county in the state is visited by one or more members of the Commission; investigations are made of assessment conditions and methods, and of the manner in which all laws relating to taxation are executed.

If the Commission has cause to suspect any assessor or other

assessment official of misconduct or negligence in the performance of his duties, it may institute proceedings on its own initiative to bring about his removal. Two methods of procedure are possible; first, it may present information to the proper prosecuting officials who, in turn, may start punitive proceedings against the offender; or second, if his removal only is sought, information may be presented to the Governor, who, after holding a hearing on the case, renders the final decision.

The Minnesota Tax Commission is *ex officio* the State Board of Equalization. In this capacity, it attempts to bring the assessed values of property in all districts and of every class of property up to 100 per cent of full market value: to this end it is authorized to make all orders and revisions necessary. It may add to or deduct from the aggregate valuation of real property and of any class of personal property, and it may revise the valuation of any class of property in any county or district. If it so wishes, the Commission may require any county auditor to furnish information as to the assessments of real and personal property of any individuals, firms, or corporations within the county. It may raise or lower individual assessment, but, before ordering any increase, it must give notice of such intention and afford the property owner an opportunity to appear for a hearing of his case. While sitting as a State Board of Equalization, the Commission may hear individual appeals without the necessity of a formal hearing. If an individual taxpayer desires to appeal to the Commission at any time other than when it is sitting as an equalization board, he must first appeal by petition to the County Commissioners of his county, and, if they pass favorably upon his case, it is presented to the Commission. A formal hearing is then granted, if such is deemed necessary.

The Commission is further empowered to order, upon its own initiative, the reassessment of all or of any class of property in any assessment district when, in the judgment of the Commission, such action is necessary to the end that an equitable assessment be realized. The task of making such a reassessment is placed in the hands of a special assessor and deputies appointed directly by the Commission. The cost of such a reassessment is a first charge against a state revolving fund, but is later recovered from the reassessed district and such fund reimbursed. Both the vigilance of the Tax Commission and the need for constant vigi-

lance are indicated by the fact that thirty-seven special reassessments were ordered during the biennium 1926-1928.

Minnesota, like Iowa and Wisconsin, has a local assessor for each township, village, and city—in all, about twenty-six hundred. The assessor, who must be a resident elector of the district, is selected by popular vote for a term of two years. It is estimated that not over 10 per cent of all local assessors fail of re-election each biennium. The compensation is four dollars per day for the time necessarily devoted to the duties of office. Legal provision is made for securing the services of deputies in districts in which there exists demonstrable need for such assistance. There are a few districts in which exceptions to these general provisions are found. In special charter cities the assessor is an appointed official. Townships having a total assessed valuation of over ten million dollars and a population in excess of ten thousand may fix the salary of the assessor upon a monthly basis. One county, Ramsey, in which the city of St. Paul is located, has a County Assessor, who serves as City Assessor of St. Paul, appoints needed local assessors and deputies, and directs their work.

Of the forty-eight states, Minnesota alone provides by statute for the assessment of rural and urban realty upon different bases. As a part of its complex system of classifying property, the stipulation is made that unplatted realty be assessed at 33 1/3 per cent and platted realty at 40 per cent of true and full value—an arrangement for which there seems to be no logical defense, nor any explanation other than political expediency. Personal property is assessed annually; real property in every even-numbered year. In both cases the assessment is with reference to value on May first. The assessor may take up his duties before this date but the greater portion of the work is usually done during May and June. The assessment rolls should be completed by the end of June. The State Tax Commission always stands ready to give the assessor all possible assistance, information, and advice with reference to the performance of his duties.

The local boards of review are differently constituted. For the township, the township board serves; for the village, the assessor, clerk, and president; and for the city, the assessor, clerk, and mayor, except in special charter cities and fourth class cities which, by resolution, may include the aldermen as members of the board.

Although not a member of the township board of review, the assessor is required to attend all meetings of the board and revise his records in accordance with its instructions. All boards of review meet on the fourth Monday in June and remain in session until all complaints have been heard. As is the case in Iowa, each board of review is directed by law to critically examine the entire assessment roll rather than to act merely as an appellate board. Strangely, however, individual assessments may not be raised without first giving due notice to the taxpayer of such intent. Local boards of review frequently perform their duties in slipshod, perfunctory fashion, adjourning after hearing aggrieved tax-payers without reviewing unprotested assessments.

The county board of equalization consists of the county auditor and the county commissioners. This body convenes on the third Monday of July and may adjourn and reconvene from time to time during the following four weeks. It is directed to examine the returns of assessment of both real and personal property in the several districts of the county and to order such revisions, if any, as are necessary to equalize all property on the basis of true and full value. The equalization duties of the board extend not only to classes of property and administrative districts, but also to assessments of individuals. Any aggrieved taxpayer who is not a resident of the district may present his case to the board during the time that it is in session. This board is subject to two legal limitations, however; it may not raise the assessment of any individual without giving him previous notice and an opportunity for a hearing, and it may not reduce the total assessed valuations of either real or personal property below the aggregate values returned by the several assessors (that is, may not lower the assessment level of the county). No information has come to light that indicates that these boards are any more effective, on the average, than are similar boards in other states.

The close resemblance of the Minnesota assessment system to the present Iowa system is evident. Real estate is assessed biennially in both states. The duties and powers of the Minnesota Tax Commission, boards of review, and local assessors are practically identical with those of like Iowa officials. The Minnesota county boards of equalization have, in theory at least, somewhat broader duties than do Iowa boards; this is at the most, however, a minor variation. A more significant difference lies in the fact that the

Minnesota Tax Commission has behind it almost a quarter of a century of experience and service, whereas the Iowa State Board of Assessment and Review, though of definite promise, is new in the field. Indeed, it should be remembered that the Iowa Board did not appear until two years later than the year for which most of the statistical data for the two states were secured.

Minnesota Assessment Data

Statistical data relating to the Minnesota assessment situation include figures for 1,341 parcels of realty, all obtained from the files and through the courtesy of the Minnesota Tax Commission. Of this total, 702 properties, for which sale consideration and assessed valuation have been secured, are distributed among six cities and six counties of the state; and 639 properties, for which original assessed and expert reassessment valuations have been obtained, are divided between the city of St. Cloud and Haycreek Township, Goodhue County. Otherwise classified, 602 properties are rural and 739 are urban. The sales value data are for the years 1926-1927, the reassessment data on Goodhue County are for 1928, and those on St. Cloud are for 1929. Confidence in the representative character and statistical adequacy of these data is strengthened by virtue of the fact that both rural and urban samples are well dispersed over the state.

Although some statistical material is available for the city of Duluth, it is not strictly comparable with other Minnesota data and attempts at reconciliation do not seem practicable. The Duluth assessment system and all data relating thereto are reserved for consideration in Chapter VII.

Consideration will be first given to the 702 properties for which sales data are at hand. On the basis of these data the assessment conditions within the state may be statistically described as follows:[1]

Rural Property (six counties)

Average assessment ratio (number basis)	84.56
Average assessment ratio (value basis)	82.03
Average percentage deviation (number basis)	22.89
Average percentage deviation (value basis)	20.51

[1]These Minnesota averages are unweighted arithmetic means of the average assessment ratios and average percentage deviations of the six counties and six cities, respectively. This method of calculation is identical with that employed in calculating the state average figures for all other states.

Urban Property (six cities)
- Average assessment ratio (number basis) 83.22
- Average assessment ratio (value basis) 79.85
- Average percentage deviation (number basis) 25.97
- Average percentage deviation (value basis) 23.10

It is apparent from the above that both city and rural property have almost precisely the same assessment level. Furthermore, this assessment level is higher than that of other states investigated except Wisconsin. With respect to uniformity of assessment, Minnesota occupies an intermediate position as compared with other states, being neither as good as the best nor as bad as the worst. In other words, if compared with an ideal assessment situation, Minnesota fares rather badly, but if compared with neighboring states, its showing is substantially improved. Minnesota, like other states, assesses rural property more uniformly than urban property.

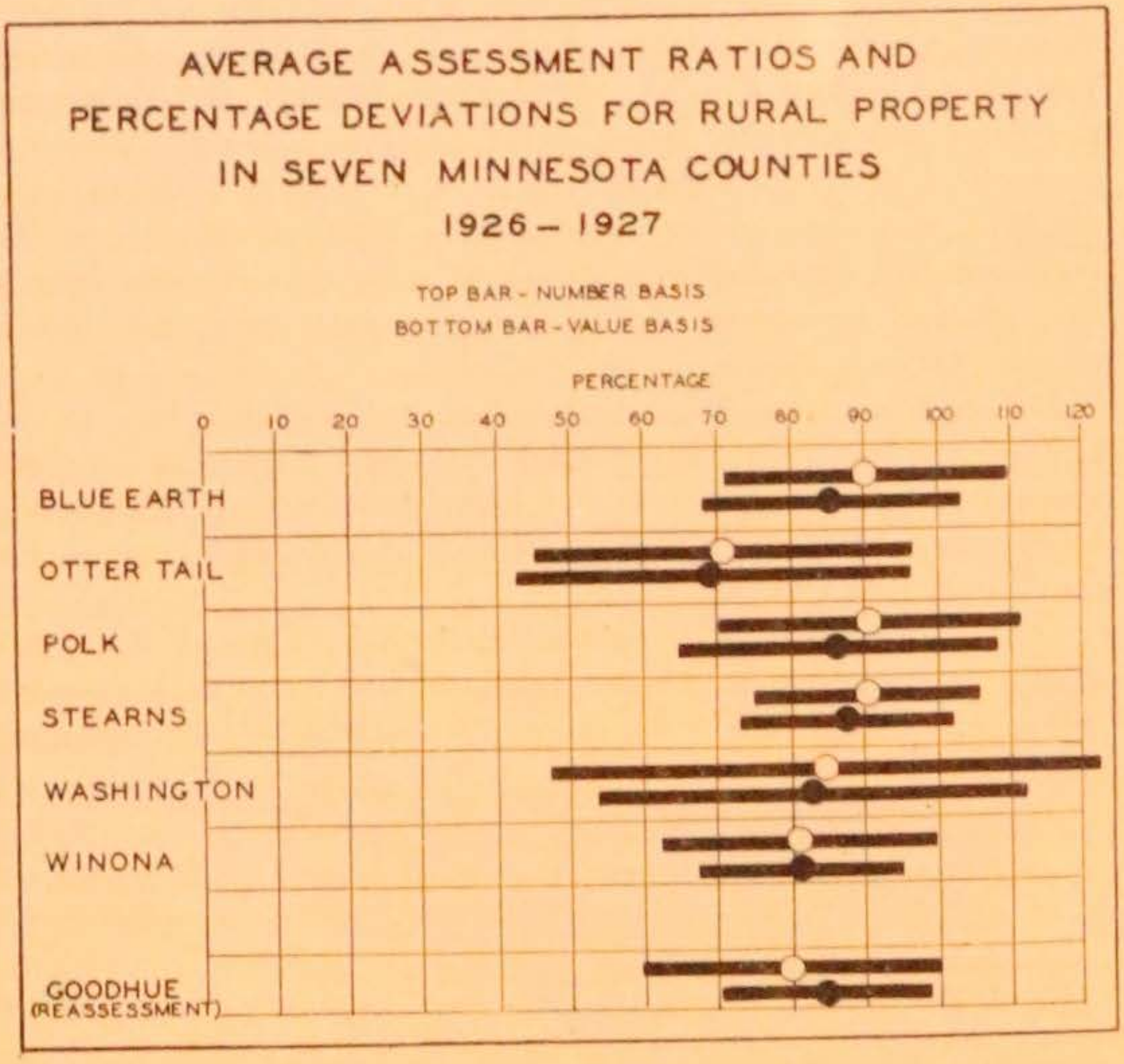

CHART XIV

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

but, unlike most states, the margin in favor of rural property is very slender. This is likely due to the fact that, while Minnesota urban property is no more difficult to assess accurately than is urban property in other states, its rural property is more heterogeneous and diversified in character than is rural property in many midwestern states. The data at hand seem to indicate that Minnesota rural property is nearly as difficult to assess equitably as is urban property in the ordinary city.

Statistical indices of assessment conditions in the six Minnesota counties are presented in Table XVII and Chart XIV. With the single exception of Otter Tail County, which is distinctly out of line, there is only slight variation among counties as regards the level of assessment. The reverse of this is true with respect to the percentage deviation figures, the indices for Washington County being twice as large as those for Stearns and Winona Counties. However, since only sixteen transfers are available for Washington County, it is quite possible that the scantiness of the sample has given undue emphasis to erratic transfers, with the result that this county appears farther out of line than a more adequate sample would show it to be. Nevertheless, even if this extreme instance be disregarded, there is considerable variation as among counties in respect to the departure from uniformity in the assessment of rural property.

An examination of the detailed tables appearing in the Minnesota section of the Appendix discloses nothing more than a mere suggestion of skewness in the distributions of rural property assessments. The spread between the highest and lowest items of the distributions does not vary greatly from county to county, the lowest range of 85 points being found in Otter Tail and Stearns Counties, and the largest, 125 points, in Washington County.

TABLE XVII

SUMMARY OF ASSESSMENT DATA FOR SIX MINNESOTA COUNTIES, RURAL PROPERTY, 1926-1927

County	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio		Average Percentage Deviation	
				No. Basis	Value Basis	No. Basis	Value Basis
Blue Earth	68	$668,574	$571,095	90.13	85.45	18.84	17.33
Otter Tail	49	375,950	259,953	70.76	68.90	25.86	26.79
Polk	52	241,260	207,468	90.69	86.43	20.69	21.68
Stearns	76	411,930	358,221	90.30	87.29	15.64	14.25
Washington	16	69,700	58,044	84.56	82.71	37.56	28.96
Winona	29	266,731	217,008	80.93	81.37	18.76	14.07

Table XVIII and Chart XV summarize the assessment conditions in the six Minnesota cities. It will be observed that the level of assessment is more variable as among cities than was true in the case of rural property. Yet, even so, there is a spread of only seventeen points between the highest and the lowest assessment

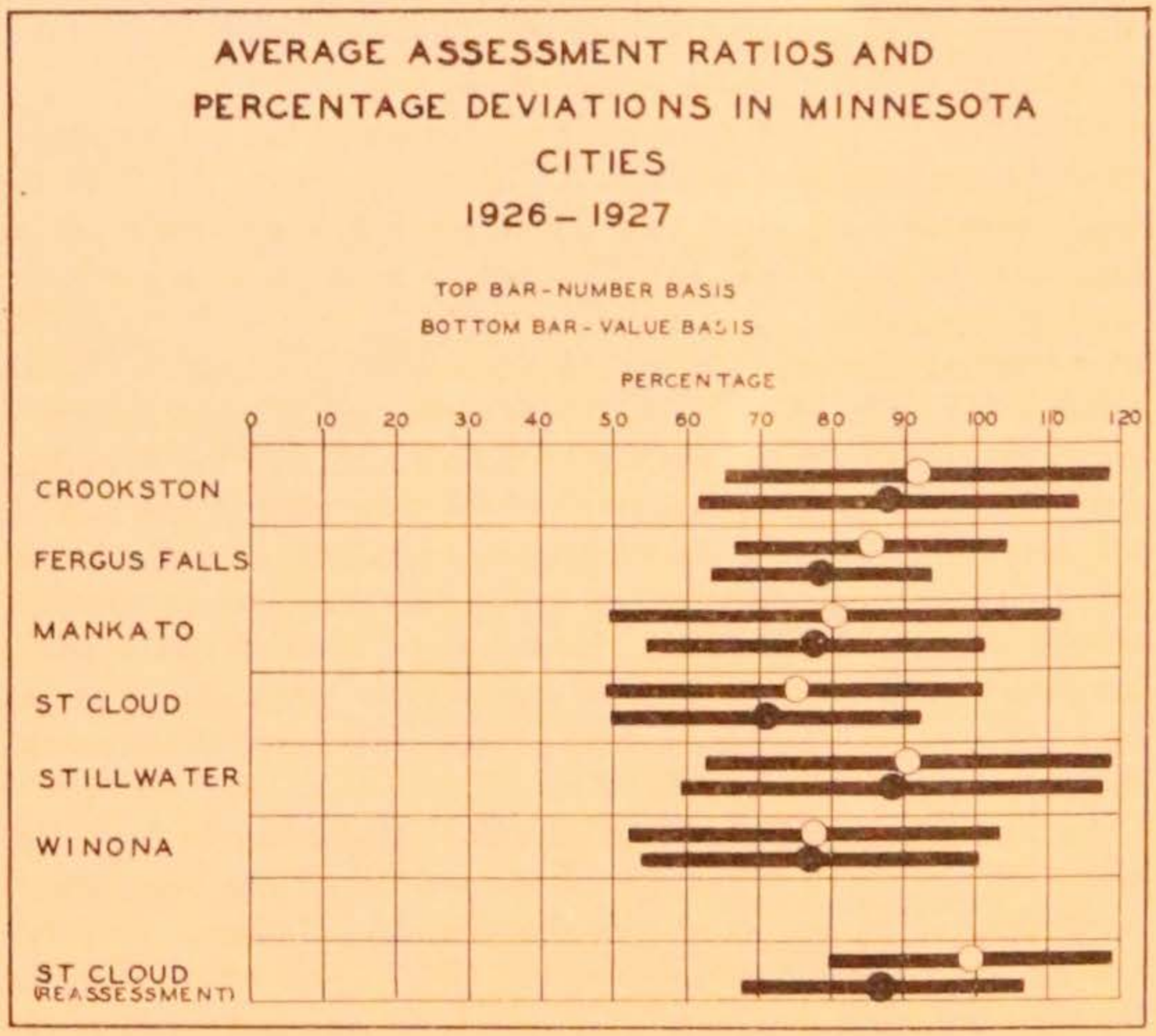

CHART XV

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

ratios. That there is some tendency, at least, towards regressivity in the assessment of urban property is indicated by the fact that the average assessment ratio is in every instance lower on the value basis than on the number basis of calculation, although the spread is not large in any city. Five of the six cities have average percentage deviations that are closely comparable; the sixth, Fergus Falls, is more uniformly assessed and hence out of line with the others.

In every city except Crookston, the assessment distributions are perceptibly skewed to the right. The ranges of the urban distributions are considerably larger than those of the rural, varying from 105 points in Crookston to 190 points in Mankato. In the majority of instances, however, the ranges of the distributions are unduly extended by a very few straggling and erratic items having abnormally large assessment ratios.

Mention has been made earlier in this chapter of the circumstances under which the Tax Commission may order the reassessment of districts that have been mal-assessed by local officials. Statistical data were secured for two districts, one rural and one

TABLE XVIII

SUMMARY OF ASSESSMENT DATA FOR SIX MINNESOTA CITIES, 1926-1927

City	No. of Transfers	Total Sale Value	Total Assessed Value	Average Assessment Ratio		Average Percentage Deviation	
				No. Basis	Value Basis	No. Basis	Value Basis
Crookston	37	$ 74,075	$ 64,650	91.65	87.50	26.58	26.21
Fergus Falls	56	139,235	108,630	85.32	78.64	18.79	15.36
Mankato	99	316,461	243,170	79.92	77.30	30.99	23.14
St. Cloud	134	267,251	189,803	74.75	70.88	26.27	21.54
Stillwater	42	67,385	59,420	90.38	88.18	28.05	29.10
Winona	44	112,415	86,940	77.32	77.19	25.12	23.25

urban, that were recently subjected to such overhauling. In each case the reassessment was made by an expert appraiser, in the employ and acting under the direction of the Tax Commission. These data are especially significant because of the fact that they constitute the only reassessment samples included in this study for which separate valuations of sites and improvements have been available. On account of their importance, the detailed statistical tables based on these data are incorporated within this chapter rather than relegated to the Minnesota section of the Appendix.

In all Minnesota data presented up to this point, the "value of property" figures have represented full market values; that is, actual sale prices of properties. However, the original data for both reassessment samples gave only the "reassessed values" as fixed by the appraisers, not the "true and full values," and the task of translating the former into the latter was not undertaken. Therefore the "value of property" figures must be multiplied by three in the case of Hayereek data, and by two and one-half in the

case of St. Cloud data if they are to show actual "true and full values" of these properties.

The Goodhue County reassessment involved the appraisal of all real estate within Haycreek Township. Since no sales data are available for this county, it is impossible to make a direct comparison between the results of the analyses of this reassessment data and parallel sales data. However, an examination of Chart XIV indicates that the assessment situation in Goodhue County, as shown by the reassessment data, is much the same as the situation in Blue Earth, Stearns, and Winona Counties, as shown by sales data. Without here repeating any of the discussion contained in Chapters I and II, relative to the proper method of evaluating the quality of reassessment data, it may be confidently stated that these Haycreek Township data are quite as reliable as the sales data in other Minnesota counties.

A detailed picture of assessment conditions in this typical Minnesota township, prior to its reassessment in 1928, may be obtained from a study of Tables XIX, XX, XXI, and Chart XIV. Table XXI, which shows the situation when land and improvements were appraised jointly, indicates that the assessment of Haycreek Township was not unlike that of rural property in other Minnesota counties, and hence does not call for further discussion. A comparison between Tables XIX and XX, however, is both instructive and disturbing. It will be observed that buildings and improvements were assessed on the average in excess of 100 per cent of their true value, although lands only were assessed upon a level of approximately 75 per cent. Furthermore, the average assessment ratio of improvements was nearly twenty points greater on the number basis than on the value basis of calculation. These two facts, taken together, point clearly to the conclusion that the local assessor neglected in large measure, if not altogether, the factor of depreciation in his appraisements of buildings and structures. It is not likely that he consciously and deliberately overvalued improvements as compared with lands. Rather, it is likely that his intention was to maintain the same level of assessment for both lands and buildings, and that this policy was actually carried out in case of newly erected structures, but, since it was unnecessary to recognize depreciation in the case of lands, he failed to do otherwise in the case of structures, and in consequence the assessment

TABLE XIX

TOWNSHIP OF HAYCREEK, GOODHUE COUNTY, MINNESOTA
REASSESSMENT OF 1928

Site Values Only

Properties Having Assessment Ratio of	Number of Properties	% of Number	Cumulated % of Number	Value	% of Value
1— 5	3	.961	100.000	$ 1,386	.123
6— 10	1	.321	99.039	51	.005
...— ...					
16— 20	1	.321	98.718	750	.067
21— 25	4	1.282	98.397	5,341	.476
26— 30	2	.641	97.115	3,600	.321
31— 35	3	.962	96.474	4,247	.378
36— 40	4	1.282	95.512	8,875	.791
41— 45	7	2.244	94.230	9,008	.803
46— 50	8	2.564	91.986	14,459	1.288
51— 55	8	2.564	89.422	19,123	1.704
56— 60	19	6.090	86.858	49,235	4.387
61— 65	20	6.410	80.768	75,799	6.753
66— 70	39	12.500	74.358	145,951	13.003
71— 75	34	10.897	61.858	158,518	14.123
76— 80	46	14.743	50.961	214,223	19.086
81— 85	42	13.461	36.218	168,917	15.049
86— 90	29	9.294	22.757	118,544	10.561
91— 95	17	5.448	13.463	61,865	5.512
96— 100	20	6.410	8.015	47,078	4.194
...— ...					
106— 110	1	.321	1.605	6,710	.598
...— ...					
116— 120	1	.321	1.284	3,000	.267
121— 125	1	.321	.963	531	.047
126— 130	1	.321	.642	5,150	.459
...— ...					
211— 215	1	.321	.321	57	.005
	312	100.000		$1,122,418	100.000

Assessed value	$ 851,157
Reassessed value	1,122,418
Average assessment ratio on number basis	73.38
Average assessmnt ratio on value basis	75.98
Percentage deviation on number basis	19.12
Percentage deviation on value basis	13.54

TABLE XX

TOWNSHIP OF HAYCREEK, GOODHUE COUNTY, MINNESOTA
RURAL REASSESSMENT, 1928

Buildings and Improvements Only

Properties Having Assessment Ratio of	Number of Properties	% of Number	Cumulated % of Number	Value	% of Value
36— 40	1	.699	100.000	$ 135	.029
41— 45	1	.699	99.301	12,509	2.649
...— ...					
51— 55	1	.699	98.602	7,600	1.610
56— 60	3	2.098	97.903	15,521	3.287

61— 65	5	3.497	95.805	28,363	6.007
66— 70	4	2.797	92.308	27,277	5.777
71— 75	4	2.797	89.511	15,025	3.182
76— 80	8	5.594	86.714	33,312	7.055
81— 85	9	6.294	81.120	40,639	8.607
86— 90	12	8.392	74.826	55,064	11.661
91— 95	7	4.895	66.434	26,722	5.659
96— 100	4	2.797	61.539	15,933	3.374
101— 105	8	5.595	58.742	27,993	5.928
106— 110	7	4.895	53.147	17,064	3.614
111— 115	7	4.895	48.252	25,304	5.359
116— 120	7	4.895	43.357	17,523	3.711
121— 125	4	2.797	38.462	15,675	3.320
126— 130	3	2.098	35.665	5,658	1.198
131— 135	2	1.399	33.567	2,618	.554
136— 140	6	4.196	32.168	14,338	3.037
...— ...					
146— 150	5	3.497	27.972	9,851	2.086
151— 155	4	2.798	24.475	5,973	1.265
156— 160	1	.699	21.677	2,272	.481
161— 165	4	2.797	20.978	5,965	1.263
166— 170	5	3.497	18.181	10,916	2.312
171— 175	2	1.399	14.684	3,028	.641
176— 180	3	2.098	13.285	6,385	1.352
181— 185	2	1.399	11.187	988	.209
186— 190	1	.699	9.788	2,280	.483
191— 195	2	1.399	9.089	4,133	.875
...— ...					
201— 205	1	.699	7.690	1,392	.295
206— 210	1	.699	6.991	2,121	.449
...— ...					
216— 220	1	.699	6.292	410	.087
...— ...					
226— 230	1	.699	5.593	1,267	.268
231— 235	1	.699	4.894	1,918	.406
236— 240	1	.699	4.195	1,216	.258
...— ...					
246— 250	2	1.399	3.496	2,561	.542
...— ...					
256— 260	1	.699	2.097	3,131	.663
...— ...					
311— 315	1	.699	1.398	938	.199
...— ...					
326— 330	1	.699	.699	1,173	.248
Total	143	100.000		$ 472,191	100.000

Assessed value	$487,415
Reassessed value	472,191
Average assessment ratio on number basis	121.46
Average assessment ratio on value basis	103.02
Percentage deviation on number basis	32.64
Percentage deviation on value basis	29.61

TABLE XXI

HAYCREEK TOWNSHIP, GOODHUE COUNTY, MINNESOTA
REASSESSMENT OF RURAL PROPERTIES, 1928

Site Values and Improvements Appraised Jointly

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
1— 5	3	.962	100.000	$ 1,386	.087
6— 10	1	.321	99.038	51	.003
...— ...					
16— 20	1	.321	98.717	750	.047
21— 25	3	.962	98.396	4,026	.252
26— 30	3	.962	97.434	5,123	.321
31— 35	2	.641	96.472	2,820	.177
36— 40	2	.641	95.831	1,854	.116
41— 45	8	2.564	95.190	14,340	.899
46— 50	7	2.244	92.626	10,809	.678
51— 55	4	1.282	90.382	10,041	.630
56— 60	10	3.205	89.100	18,614	1.167
61— 65	12	3.846	85.895	56,505	3.544
66— 70	28	8.974	82.049	123,763	7.761
71— 75	30	9.615	73.075	179,953	11.285
76— 80	40	12.821	63.460	228,358	14,321
81— 85	44	14.103	50.639	280,929	17.617
86— 90	26	8.333	36.536	156,823	9.835
91— 95	27	8.654	28.203	166,566	10.446
96— 100	27	8.654	19.549	136,209	8.542
101— 105	9	2.885	10.895	55,860	3.503
106— 110	7	2.244	8.010	52,748	3.308
111— 115	6	1.923	5.766	35,808	2.246
116— 120	4	1.282	3.843	30,034	1.883
121— 125	1	.320	2.561	531	.033
126— 130	1	.320	2.241	5,793	.363
131— 135	1	.320	1.921	3,018	.189
136— 140	2	.641	1.601	8,669	.544
...— ...					
151— 155	1	.320	.960	2,691	.169
...— ...					
191— 195	1	.320	.640	480	.030
...— ...					
211— 215	1	.320	.320	57	.004
	312	100.000		$1,594,609	100.000

Total assessed value	$1,338,572
Total reassessed value	1,594,609
Average assessment ratio on number basis	79.87
Average assessment ratio on value basis	84.04
Percentage deviation on number basis	20.30
Percentage deviation on value basis	14.23

roll failed to adequately reflect the ravages of time on farm improvements.

This gross inequity in the assessment of improvements is reflected in each of the statistical measures of the situation. The average percentage deviations are 32.64 and 29.61, larger than

were found for land and improvements, taken together, in any Minnesota county. Table XX shows the range of the distribution to be as great as 290 points; also that the distribution is skewed sharply to the right. Table XIX, on the other hand, shows the distribution of land assessments to be perceptibly skewed to the left and, if one erratic parcel of negligible value be disregarded, to have a range of only 125 points. Worthy of note, also, are the extremely low ratios of a few lands, three parcels being assessed at less than five per cent of their full value.

It is uncertain, of course, to what extent the features of the assessment situation in Hayereek Township are characteristic of assessment conditions in other rural districts of Minnesota or of other states. There is no evidence at hand to indicate that this township is other than a fair sample of rural districts in Minnesota. The fact that it was subjected to an official reassessment may or may not indicate that it had been less adequately assessed than other rural areas; if less adequately, its shortcomings differed in degree, rather than in kind, from those of other districts. In so far as the Hayereek Township data reveal the greatest weakness of the local assessor to be found in his appraisals of buildings and improvements, it is likely that they justify one in regarding this township as typical of American conditions.

The 1929 reassessment operations in St. Cloud covered only sites and structures located within the central business area of the city. The 1927 sales data for this city involved, for the most part, residential properties; consequently the two groups of data are not strictly parallel and hence not subject to direct comparison. By referring to Chart XV, it will be found that the sales data show larger average percentage deviations for the city than do the reassessment data. This does not necessarily indicate any inconsistency, however, since properties within the business area have a much higher average market value than properties lying outside it, and it has been found that urban properties of higher value are ordinarily assessed more uniformly than properties of lower value. The disparity between the average assessment ratios, as shown by the two groups of data, is not subject to such obvious explanation, since the higher-value properties are ordinarily assessed upon a lower level than properties of lesser value. Enlightenment on this point is afforded when the major purpose of the reassessment

is ascertained. It will be noted that the reassessment data show an average assessment ratio on the number basis of approximately 100 per cent; this tends to corroborate information received by the authors to the effect that the primary object of the 1929 revaluation was to correct individual inequalities in assessment. If the assessment level had been substantially raised within the reassessed area, the result would have been to unjustifiably lift a portion of the city's total tax burden from the residential areas and rest it upon the business areas; therefore the reassessment was made on such a basis as to keep it in harmony with the assessment level as already established for the city as a whole. Thus this disparity between the average assessment ratios is seen to be a normal resultant of the situation, and fails to indicate any inconsistency or shortcoming of either group of data.

Tables XXII, XXIII, and XXIV show in detail the assessment conditions in the business area of St. Cloud prior to the 1929 reappraisal. It may be noted that the average assessment ratios of sites, buildings, and of the two appraised jointly, are all substantially higher on the number basis of calculation than upon the value basis. This must be taken to indicate pronounced regressivity in the assessment of both sites and buildings, a conclusion that is borne out by a more comprehensive investigation of that feature of the situation. Buildings are assessed on a slightly higher level than are sites, but the difference is small as compared with that in the rural situation in Goodhue County. This evidence is inconclusive as to the city assessor's method of treating depreciation. The average percentage deviation figures show sites were assessed with almost as much lack of uniformity as were buildings; also the building assessments were distributed over a range of 255 points, or only 40 points larger than the 215 point range of the site assessments. In both respects St. Cloud is in contrast with Goodhue County, and both reflect the greater difficulty of making an equitable assessment of city sites as compared with farm lands. It would seem that the city assessor finds sites and buildings equally difficult to appraise; the rural assessor, on the other hand, proceeds with some assurance when dealing with lands, but finds himself at sea without a compass when he attempts to deal with structures and other improvements.

The results of all computations relative to regressivity in the assessment of Minnesota property are presented in Tables XXV

TABLE XXII

ST. CLOUD, MINNESOTA—1929 REASSESSMENT

Site Values Only

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Number	Land Value	% of Value
31— 35	1	.306	100.000	$ 8,000	.285
..— ..					
46— 50	2	.612	99.694	700	.025
51— 55	2	.612	99.082	27,700	.988
56— 60	8	2.446	98.470	105,480	3.762
61— 65	16	4.893	96.024	299,130	10.668
66— 70	18	5.505	91.131	282,990	10.092
71— 75	33	10.092	85.626	543,680	19.389
76— 80	21	6.422	75.534	266,190	9.493
81— 85	10	3.058	69.112	80,550	2.873
86— 90	29	8.869	66.054	281,960	10,055
91— 95	26	7.951	57.185	244,330	8.713
96— 100	55	16.820	49.234	209,470	7.470
101— 105	13	3.976	32.414	98,640	3.518
106— 110	9	2.752	28.438	37,930	1.353
111— 115	12	3.670	25.686	85,290	3.042
116— 120	10	3.058	22.016	54,915	1.958
121— 125	18	5.505	18.958	65,150	2.324
126— 130	4	1.223	13.453	14,320	.511
131— 135	3	.917	12.230	7,690	.274
136— 140	6	1.835	11.313	14,060	.501
141— 145	2	.611	9.478	3,380	.121
146— 150	3	.917	8.867	13,950	.497
151— 155	4	1.223	7.950	17,560	.626
156— 160	5	1.529	6.727	9,170	.327
161— 165	2	.611	5.198	11,240	.401
166— 170	2	.611	4.587	3,960	.141
171— 175	1	.306	3.976	600	.021
...— ...					
181— 185	1	.306	3.670	1,100	.039
...— ...					
196— 200	5	1.529	3.364	7,200	.257
...— ...					
201— 205	1	.306	1.835	1,200	.043
...— ...					
211— 215	1	.306	1.529	950	.034
216— 220	1	.306	1.223	1,620	.058
...— ...					
226— 230	2	.611	.917	3,580	.128
...— ...					
246— 250	1	.306	.306	360	.013
Totals	327	100.000		$2,804,045	100.000

Reassessed value	$2,804,045
Assessed value	2,378,985
Average assessment ratio on number basis	99.22
Average assessment ratio on value basis	84.51
Percentage deviation on number basis	23.18
Percentage deviation on value basis	19.69

TABLE XXIII

ST. CLOUD, MINNESOTA—1929 REASSESSMENT

Structures Only

Properties Having Assessment Ratio of	Number of Properties	% of Number	Cumulated % of Number	Value	% of Value
11— 15	1	.355	100.000	$28,220	1.033
..— ..					
26— 30	1	.355	99.645	49,470	1.810
31— 35	2	.709	99.290	8,620	.315
..— ..					
41— 45	4	1.418	98.581	30,000	1.098
46— 50	3	1.064	97.163	35,250	1.290
51— 55	4	1.418	96.099	130,930	4.791
56— 60	4	1.418	94.681	66,310	2.427
61— 65	5	1.773	93.263	112,625	4.121
66— 70	15	5.319	91.490	380,555	13.926
71— 75	7	2.482	86.171	38,090	1.394
76— 80	17	6.028	83.689	215,892	7.901
81— 85	14	4.964	77.661	230,400	8.432
86— 90	14	4.964	72.697	134,320	4.915
91— 95	26	9.220	67.733	226,115	8.275
96— 100	27	9.574	58.513	290,066	10.615
101— 105	25	8.865	48.939	216,874	7.937
106— 110	15	5.319	40.074	45,280	1.657
111— 115	19	6.738	34.755	112,905	4.132
116— 120	13	4.610	28.017	61,670	2.257
121— 125	10	3.546	23.407	48,800	1.786
126— 130	7	2.482	19.861	27,510	1.007
131— 135	8	2.837	17.379	110,690	4.051
136— 140	6	2.128	14.542	5,800	.212
141— 145	6	2.128	12.414	16,760	.613
146— 150	5	1.773	10.286	18,110	.663
151— 155	5	1.773	8.513	16,306	.597
156— 160	1	.355	6.740	22,190	.812
161— 165	2	.709	6.385	3,220	.118
166— 170	1	.355	5,676	3,400	.124
171— 175	2	.709	5.321	13,320	.487
176— 180	4	1.418	4.612	14,710	.538
181— 185	1	.355	3.194	910	.033
186— 190	1	.355	2.839	430	.016
191— 195	1	.355	2.484	4,600	.168
196— 200	1	.355	2.129	7,890	.289
201— 205	1	.355	1.774	830	.030
...— ...					
226— 230	1	.355	1.419	660	.024
...— ...					
246— 250	2	.709	1.064	2,600	.095
...— ...					
266— 270	1	.355	.355	300	.011
	282	100.000		$2,732,628	100.000

Assessed value	$2,416,310
Reassessed value	2,732,628
Average assessment ratio on number basis	104.33
Average assessment ratio on value basis	88.54
Percentage deviation on number basis	24.20
Percentage deviation on value basis	24.79

TABLE XXIV

ST. CLOUD, MINNESOTA—1929 REASSESSMENT

Sites and Structures Appraised Jointly

Properties Having Assessment Ratio of	Number of Properties	% of Number	Cumulated % of Number	Value	% of Value
36— 40	1	.306	100.000	$ 47,720	.862
..— ..					
46— 50	1	.306	99.694	300	.005
51— 55	3	.917	99.388	168,245	3.039
56— 60	2	.612	98.471	104,270	1.883
61— 65	11	3.364	97.859	255,740	4.619
66— 70	19	5.810	94.495	807,900	14.592
71— 75	10	3.058	88.685	324,680	5.864
76— 80	36	11.009	85.627	904,750	16.341
81— 85	26	7.951	74.618	549,940	9.933
86— 90	22	6.728	66.667	289,840	5.235
91— 95	26-	7.951	59.939	498,534	9.004
96— 100	43	13.149	51.988	375,537	6.783
101— 105	18	5.504	38.839	212,315	3.835
106— 110	23	7.034	33.335	291,849	5.271
111— 115	21	6.422	26.301	189,605	3.425
116— 120	12	3.670	19.879	127,947	2.311
121— 125	10	3.058	16.209	56,990	1.029
126— 130	10	3.058	13.151	133,486	2.411
131— 135	5	1.529	10.093	44,270	.800
136— 140	4	1.223	8.564	38,100	.688
141— 145	7	2.141	7.341	37,250	.673
146— 150	2	.612	5.200	7,370	.133
151— 155	1	.306	4.588	6,600	.119
156— 160	7	2.141	4.282	37,510	.677
161— 165	2	.611	2.141	16,180	.292
166— 170	1	.306	1.530	1,320	.024
171— 175	1	.306	1.224	1,545	.028
...— ...					
196— 200	1	.306	.918	800	.014
201— 205	1	.306	.612	4,800	.087
...— ...					
226— 230	1	.306	.306	1,280	.023
	327	100.000		$5,536,673	100.000

Assessed value	$4,795,295
Reassessed value	5,536,673
Average assessment ratio on number basis	98.83
Average assessment ratio on value basis	86.60
Percentage deviation on number basis	19.53
Percentage deviation on value basis	19.27

TABLE XXV

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL, MINNESOTA RURAL PROPERTY, 1926-1927

Price Per Acre	Stearns No. of Prpts.	Stearns Assmt. Ratio	Blue Earth No. of Prpts.	Blue Earth Assmt. Ratio	Polk No. of Prpts.	Polk Assmt. Ratio
$ 0—$ 20	1	118%			2	
21— 40	11	112	2		29	95%
41— 60	19	92	5	119%	13	95
61— 80	22	86	5	122	8*	62
81— 100	19	82	16	94		
101— 120	4*	70	10	89		
121— 140			12	80		
141— 160			10	76		
161— 180			8*	72		
Totals	76		68		52	

Price Per Acre	Otter Tail No. of Prpts.	Otter Tail Assmt. Ratio	Winona No. of Prpts.	Winona Assmt. Ratio	Washington No. of Prpts.	Washington Assmt. Ratio
$ 0—$ 20	8	81%	4	106%	1	
41— 60	12	80	7	80	1	138%
61— 80	18	68	7	72	6	77
81— 100	11*	58	7	75	3	75
101— 120			4*	87	5*	79
Totals	49		29		16	

*Price per acre indicated and scattering higher prices per acre.

TABLE XXVI

CORRELATION BETWEEN VALUE OF STRUCTURES AND IMPROVEMENTS AND ASSESSMENT LEVEL, RURAL PROPERTY, HAYCREEK TOWNSHIP, GOODHUE COUNTY, MINNESOTA—1928 EXPERT REASSESSMENT

Value Class	Number of Properties	Average Assessment Ratio
$ 0—$2,000	42	155%
2,001— 4,000	59	124
4,001— 6,000	27	90
6,001— 8,000	12	75
8,001—up	4	59

TABLE XXVII

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL, MINNESOTA CITIES—1926-1927

Value Class	Crookston No. of Prpts.	Crookston Assmt. Ratio	Fergus Falls No. of Prpts.	Fergus Falls Assmt. Ratio	Mankato No. of Prpts.	Mankato Assmt. Ratio
$ 0—$ 250	1	113%	2	91%	10	114%
251— 1,250	17	105	26	91	32	81
1,251— 2,250	8	82	9	91	9	55
2,251— 3,250	11*	77	7	70	12	85
3,251— 4,250			7	81	9	67
4,251— 5,250			5*	72	10	81
5,251— 6,250					5	74
6,251— 7,250					4	76
7,250—up					8*	72
Total	37		56		99	

Value Class	St. Cloud No. of Prpts.	St. Cloud Assmt. Ratio	Stillwater No. of Prpts.	Stillwater Assmt. Ratio	Winona No. of Prpts.	Winona Assmt. Ratio
$ 0—$ 250	7	118%	4	79%	4	72%
251— 1,250	57	72	17	101	11	90
1,251— 2,250	20	77	12	93	7	73
2,251— 3,250	21	74	9*	72	9	66
3,251— 4,250	18	67			5	60
4,251— 5,250	11*	69			8*	89
Total	134		42		44	

*Value class indicated and scattering larger values.

TABLE XXVIII

CORRELATION BETWEEN VALUE AND ASSESSMENT LEVEL, ST. CLOUD, MINNESOTA, BUSINESS PROPERTIES, 1928 EXPERT REASSESSMENT

LAND ONLY Value Class	No. of Prpts.	Average Assmt. Ratio	IMPROVEMENTS Value Class	No. of Prpts.	Average Assmt. Ratio
$ 0—$ 2,500	88	122%	$ 0—$ 2,500	100	120%
2,501— 5,000	71	102	2,501— 5,000	53	96
5,001— 10,000	80	95	5,001— 10,000	55	106
10,001— 15,000	30	81	10,001— 15,000	27	94
15,001— 20,000	28	76	15,001— 20,000	11	81
20,001— 25,000	11	77	20,001— 25,000	12	96
25,001— 45,000	15	79	25,001— 30,000	6	81
45,001—up	4	66	30,001— 35,000	5	90
			35,001— 60,000	11	79
			60,001— up	2	61

to XXVIII inclusive. It will be noted that owners of lower priced farm land are at a disadvantage in each of the six counties here investigated, but the discrimination is most severe in Stearns, Blue Earth, and Otter Tail Counties. Urban property shows somewhat less consistent regressivity in assessment than does rural property. Of the six cities, Crookston and Stillwater manifest pronounced regressivity; Fergus Falls, St. Cloud, and Winona show somewhat less; Mankato displays the least of all. It is to be regretted that the reassessment data for Goodhue County covered only the total appraised value for each parcel of land, without giving either the appraisement per acre or the number of acres included in each parcel. Hence, without knowing the appraised value per acre, it was impossible to investigate regressivity in the assessment of lands alone. Table XXVI shows that the assessment of structures and improvements on the farms of Haycreek Township was characterized by pronounced and consistent regressivity. It is apparent from Table XXVIII that both sites and buildings within the business area of St. Cloud were assessed very regressively—sites

somewhat more consistently so, however. It is impossible to ascertain to what extent failure to give adequate recognition to depreciation has been a cause of regressivity in the assessment of buildings, but it is altogether likely that such failure played some role in determining conditions prior to the 1929 revaluation.

Conclusions Regarding the Minnesota Assessment Situation

Although Minnesota's tax system has a number of unusual features, such as the complexity of its property classification and its methods of taxing iron ores, none of these features is directly related to or reflected in the assessment machinery of the state. Likewise, the preceding analysis of statistical data fails to reveal any startling or novel features in the assessment situation. As compared with neighboring states, Minnesota's showing may, on the whole, be characterized as slightly above average. The assessment conditions now existing within the state seem to point definitely to two conclusions: first, that the situation would have been substantially less satisfactory than it now is but for the determined efforts of the Minnesota Tax Commission during the past decade; and second, that no tax commission, however able and untiring, will be able to effect a wholesale improvement of conditions if assessment is to rest primarily in the hands of independent, inept, and untrained local assessors and little more satisfactory local boards of review.

The work of the Tax Commission is reflected in all the more satisfactory aspects of the Minnesota assessment situation. Especially notable is its success in maintaining the same level of assessment throughout the state for both rural and urban property, in view of the favored status that is afforded rural property by statutory classification. It seems highly probable that owners of platted real estate must have strenuously urged city assessors to lower the level of assessment to such a point as to equalize the burden of the state levy per dollar of full market value on their property with that of the owners of unplatted realty; that the status quo indicates such efforts have failed to effect their purpose testifies to the alertness and energy of the Tax Commission.

This chapter should not be concluded until mention has been made of some of the assessment policies of the Minnesota Tax Commission that are of unquestionable merit, and of some of the

further reforms which it has been seeking to effect. A system of collecting and tabulating market values of property over the entire state as shown by deed records has been in use for some time. This system, it may safely be stated, is surpassed only by that of Wisconsin. The Tax Commission has urged every recent legislature to enact a law compelling the statement of the true and full consideration of sale in every warranty deed placed of record, in order that more complete sales data might be available to the Commission, thereby facilitating a more thorough execution of its equalization duties. The Commission has asserted its powers relative to reassessments and equalization orders in a vigorous and militant fashion. In 1928 the Commission published an assessor's manual in which were included careful and detailed instructions covering the assessment of all types of property. All assessment forms are prescribed by the Tax Commission and an excellent set of appraisal cards has been issued for use in connection with both rural and urban property. It has urged the use of a standard unit of area in cities and the cubic foot method of appraisal for both rural and urban structures, and has placed standard valuation tables in the hands of all assessors. It has designed model assessment maps and has recommended the construction of the same in each district. A small number of local assessors have evinced a willingness to cooperate with the Tax Commission in the introduction of more adequate and improved appraisal methods, but the majority of such officials continue to cling stubbornly to the traditional, haphazard, rule-of-thumb methods.

Recognizing that the antiquated local assessor system is an effective barrier to further substantial amelioration of assessment conditions within the state, the Tax Commission has throughout the past decade vigorously urged the introduction of the county assessor system. Unfortunately, the Minnesota legislature has thus far refused to accede to this recommendation. If such improvement and modernization of the machinery of assessment could be accomplished, it is not unreasonable to expect, upon the basis of its past record, that the Minnesota Tax Commission will be able to effect such further improvement of assessment conditions as to give Minnesota a distinctive place among midwestern states.

CHAPTER V

STATE OF NEBRASKA

The Assessment System

The Nebraska assessment system is a curious combination of new and old, of good and bad, and of centralization and decentralization, a casual examination of which gives one the impression of a fiscal checkerboard, at least. Just as there may be found within the state the economic extremes of populous industrial cities and barren, sandy, semi-arid regions, so may there be found within its system of taxation some features that are modern and forward-looking and others that are backward and antiquated. To facilitate understanding, an analysis will first be made of the work of each of the several assessment officials in the system as a whole.

The administrative head of the Nebraska tax system is the State Tax Commissioner. This office was established in 1921, and has already been occupied by four different persons. It is evident from this that each time the state elects a new Governor it is likely to have a new Tax Commissioner. He is appointed by the Governor, subject to confirmation by the Senate, for a two-year term at an annual salary of $5,000. No qualifications are required of the appointee by statute. The Tax Commissioner is a member of the State Board of Equalization and Assessment, a body whose duties will subsequently be described. At the time this office was created the office of Secretary of Finance was abolished, and all duties pertaining thereto were assigned to the State Tax Commissioner. In consequence, we find that the Commissioner is also director of the state budget, state comptroller, and supervisor of all state purchasing. This is a close approach to a *reductio ad absurdum* of the principle of centralization. Furthermore, all these activities which are placed under the direction of the State Tax Commissioner are supported by an annual appropriation of only $25,000.

The duties of the Tax Commissioner with reference to the administration of assessments are not numerous. He either pre-

scribes or approves all forms and blanks used by subsidiary officials. He may issue both general instructions and special directions to assessors, and interprets all laws relative to assessment and taxation. His most specific duty of this type is that of assuming entire responsibility for the administration of the Nebraska statute relating to the taxation of intangibles.

The State Board of Equalization and Assessment is an *ex officio* body, composed of the Governor, Secretary of State, State Auditor, State Treasurer, and State Tax Commissioner, the first-named serving as chairman and the last-named as secretary. This Board is directly responsible for the assessment of all railroad property[1], all car companies, and all public utility franchise or corporate excess values. It meets on the first Monday of July of each year to equalize assessments as among counties and as among the several classes of property. For factual material to guide it in this equalization the Board depends almost entirely upon the abstracts of assessments which have been received from the auditors of the several counties, although occasionally depositions of witnesses are taken. However, no equalization order, whether prescribing an increase or a decrease, may be issued without first serving notice on, and giving opportunity for a hearing to, all counties affected thereby. It is provided by statute that any person or district affected by an equalization order of the Board may appeal therefrom on a writ of error to the Supreme Court. The Board has no appellate jurisdiction over the assessments of tangible property of individuals, either real or personal.

If, by the first of December next following the date of the original assessment, it appears to the Tax Commissioner that the assessment of any property or any class of property within any district or county is "grossly unfair or inequitable", he is authorized to inform the State Board of his findings. After unwinding the customary red tape in the form of notices and hearings, the State Board may order a special reassessment of the class of property, the district, or the county, involved. Such reassessments are made by special assessors and deputies, residents of the affected counties, appointed by the State Board. Although de-

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[1]Each local assessor is required to make a preliminary appraisal of all railroad property located within his district, but the determination of the final assessment thereof rests entirely with the State Board of Equalization and Assessment.

tailed statutory provisions are made covering such reassessments, the recent reports of the Nebraska Tax Commissioner fail to reveal that any such have actually been undertaken.

Statutory provisions are made for the removal from office of both county and precinct assessors by the State Board of Equalization and Assessment. Due cause for such action is defined as "wilful neglect or refusal to obey any of the provisions of law, or rules, regulations or instructions of the Board, or wilful neglect and refusal to perform any of the duties imposed upon him by law, or by the rules, regulations or instructions of the Board." The State Board has not seen fit to exercise its authority to remove any assessor during the last decade, however.

The Nebraska local assessor is officially known as the "precinct assessor." Section 5817 of the Nebraska Code says: "The word 'township' and 'precinct' shall each include the other, and shall also include towns in counties under township organization." The state has approximately 1,900 precincts and consequently the same number of local assessors. Each precinct elects its assessor by popular vote for a two-year period. He is paid five dollars per day for the time actually devoted to his duties, such time beginning April 1, and not to extend beyond the last Monday in May. All personal property is subject to annual assessment and real estate, subsequent to the assessment of 1926, is to be assessed every four years. The work of the precinct assessor is done under the general supervision of the county assessor and the State Tax Commissioner.

In discussing the Nebraska county assessor, it should be made clear at the outset that his work by no means corresponds to that of the county assessor as conceived in modern fiscal literature, nor, in the main, to that of such officials in a majority of the states where provision has been made for the county assessor. There are 93 counties in Nebraska, in 56 of which the county assessor is a separate, independent official, and in 37 of which the duties of the office are combined with those of the county clerk. In those counties in which the assessor is an independent official, he is elected by popular vote for a term of four years. In Douglas County, in which the city of Omaha is located, the salary is $3,000 per annum; in Lancaster County, in which the city of Lincoln is situated, it is $1,800; and in the other counties it ranges from $250 to $700. In Douglas and Lancaster Counties, the as-

sessor is kept busy throughout the year; in the others he ordinarily devotes not to exceed four months to the duties of the office.

The duties of the county assessor are almost entirely supervisory in character. He has original assessment jurisdiction over no property except such as may have been omitted by the precinct assessor. Although the Nebraska Code requires sixty-seven lines to define the duties of the county assessor,[1] it appears that none of these duties is more important or impressive than reviewing the assessment of real estate for the correction of errors; visiting, advising and instructing precinct assessors; furnishing them with all necessary blanks, receiving from them the finished assessment rolls; following the instructions of the State Board of Equalization and Assessment, and the like. Although the county assessor is empowered to revise individual assessments as reported by the precinct assessors, he seldom exercises this power.

It will be appropriate at this point to offer a word of warning regarding the captions on tables and charts which appear later in this chapter. The counties labeled "with county assessor" are those in which this official is a separate and independent officer of the county; those labeled "without county assessor" are the ones in which the duties of the assessor are combined with those of the county clerk. In the first group of counties, the assessor is an individual who has no other official duties than those pertaining to the assessorship; in the second group, the county clerk is *ex officio* county assessor. The point to be remembered when the tables and charts are under consideration is that the same assessment functions are performed in each county—in the one case by an additional full-time official, and in the other by a part-time official who devotes but a fraction of his time to assessment duties.

The county board of equalization is composed of the members of the county board of supervisors, the county clerk and the county assessor. It convenes annually on the second Tuesday in June, remaining in session not less than three nor more than twenty days, during which time it is presumed to equalize assessments as among individuals, classes of property, and precincts. Witnesses may be summoned and examined under oath. Process may be issued to compel the production of files and records for examination. Omitted property may be added to the assessment

[1]Section 5963, Code of Nebraska.

roll. Every aggrieved taxpayer must be given a hearing. All these duties and functions must be performed during the annual maximum twenty-day session of the county board of equalization. Statutory provision is made for appeal to the district court from the final rulings of the board.

It is apparent from the foregoing brief description that the Nebraska assessment system is distinctly rudimentary in character. The nominal head of the system, the State Tax Commissioner, lacks mandatory powers over subordinate officers and is compelled to devote not less than one-half of his time to duties having no bearing upon assessment and taxation. The county assessor occupies an anomolous position; ostensibly a major official, his duties are found to be superficial in character and trivial in importance. The actual work of establishing assessed values is performed almost entirely by the precinct assessors, elective local officials whose qualifications sometimes fall short of an elementary knowledge of the "three R's." The County and State Boards of Equalization are *ex officio* bodies, that ineffective type of administrative organization whose performance may be characterized by the phrase "rubber stamp." Irrespective of the angle from which the Nebraska assessment set-up is approached, one is impressed by its failure to delegate power and authority and thereby to centralize responsibility.

Nebraska Assessment Data

The sample of assessment data used in the statistical evaluation of the Nebraska system consists of 1,479 transfers of urban property in seven cities and 884 transfers of rural property in twelve counties. The cities and counties have been so selected as to represent fairly the range of assessment conditions throughout the state.[1] This material was originally collected by Mr. F. S. Pollard, Tax Agent of the Chicago, Burlington, and Quincy Railroad, for use as evidence in the state courts in establishing the average assessment ratio in various cities and counties of the state of Nebraska served by this railroad. The data have been carefully edited by Mr. Pollard and, as made available to the authors, have been fully documented, showing date of transfer, grantor, grantee, where located on recorder's books, legal description of property,

[1]No official state data are available that might be adapted to the purpose in hand.

mortgage on property, sale value, and assessed value for the last five assessments. After the elimination of a few transfers that might be considered questionable, it is believed that these data are sufficiently reliable to withstand a most rigorous test for bias or error.

The sales in this sample took place during the year ending April 1, 1928, and the assessment was as of April 1, 1926. Assessment figures for 1928 were not available, since the next quadrennial assessment was scheduled for 1930. However, sales data and assessment figures cover periods which are closely comparable, so eliminate any considerable deviation of assessed from sale value that might result from changes in land values after April 1, 1926. Because of the failure to keep valuations to date, serious inequalities may develop from rapid changes in land values during an inter-assessment period. This constitutes an important criticism of a statutory provision for a four-year assessment period, in general, although in an area in which population is stationary, residence fixed, and economic activity remains approximately the same in nature and extent, a quadrennial assessment is adequate.

The summary of the statistical analysis of Nebraska assessment is as follows:

Rural Property
- Average assessment ratio (number basis) 58.62
- Average assessment ratio (value basis) 52.39

City Property
- Average assessment ratio (number basis) 47.85
- Average assessment ratio (value basis) 47.07

Rural Property
- Average percentage deviation (number basis) 26.65
- Average percentage deviation (value basis) 23.14

City Property
- Average percentage deviation (number basis) 27.30
- Average percentage deviation (value basis) 24.25

A general comparison of city and rural property indicates that city property is assessed at an appreciably lower ratio to full value than rural property. This is due in all likelihood to the somewhat stronger economic position of urban property during the period in which these data were gathered. An analagous situation was found to exist in Wisconsin. The very low assessment ratios in Nebraska (lower than in any other state) are indicative of the tendency toward competitive undervaluation which exists whenever state equalization is inadequate. The measure of dispersion indicates that rural property is only slightly better assessed than

city property. From the wide percentage range in per acre values, reflecting the diverse character of soil and topography, one may infer that rural property is somewhat more difficult to assess here than in states where it is more homogeneous.

Tables XXIX and XXX and Charts XVI and XVII summarize the rural and urban assessment samples for Nebraska for areas having the full-time county assessor and those not having a full-time county assessor. The complete and detailed tables will be found in the Nebraska Appendix. It may be noted that the average assess-

TABLE XXIX

SUMMARY OF ASSESSMENT SITUATION IN TWELVE NEBRASKA COUNTIES, RURAL PROPERTY, 1927-1928

				Average Assessment Ratio (%)		Average Percentage Deviation	
County	No. of Transfers	Total Sale Value	Total Assessed Value	No. Basis	Value Basis	No. Basis	Value Basis
Counties Having a Full-time County Assessor							
Box Butte	67	$492,212	$187,220	43.90	37.90	32.60	26.81
Cherry	85	570,129	330,325	76.06	57.26	36.69	30.42
Cheyenne	103	919,607	596,217	70.82	64.77	23.21	20.75
Custer	96	859,061	441,812	54.77	51.41	26.51	24.35
Keith	56	568,917	222,630	49.88	39.32	37.01	26.40
Perkins	87	813,952	316,205	41.51	38.70	23.27	17.93
Counties Without Full-time County Assessors							
Antelope	49	568,941	380,342	74.84	67.00	27.07	24.00
Buffalo	78	757,224	460,232	61.78	60.71	20.18	17.74
Furnas	52	462,749	249,149	58.67	53.76	22.17	24.13
Gage	58	946,458	613,050	67.40	65.05	15.99	15.30
Lincoln	104	699,693	291,408	52.18	41.83	33.42	30.41
Red Willow	49	456,160	232,135	51.67	50.98	21.66	19.46

TABLE XXX

SUMMARY OF ASSESSMENT DATA FOR SEVEN NEBRASKA CITIES, 1927-1928

(Four counties having full-time county assessors; three without full-time county assessors)

				Average Assessment Ratio (%)		Average Percentage Deviation	
City	No. of Transfers	Total Sale Value	Total Assessed Value	No. Basis	Value Basis	No. Basis	Value Basis
Lincoln	681	$3,664,655	$2,228,810	60.99	60.86	25.10	22.54
Hastings	195	721,207	370,590	53.56	51.51	31.39	27.49
Fremont	161	490,957	263,625	53.47	53.48	23.00	19.86
Grand Island	171	575,308	255,345	46.25	44.23	34.21	33.82
Non-county Assessor Cities							
Beatrice	118	398,778	195,990	48.72	48.86	26.48	22.53
North Platte	87	305,599	106,615	35.87	34.62	27.24	23.77
McCook	66	208,381	75,025	36.11	35.91	23.71	19.72

ment ratios for rural property range from 42 per cent to 76 per cent on the number basis, and from 38 per cent to 67 per cent on the value basis. In addition, the county ratios do not bunch about the state averages, which are 59 per cent and 52 per cent respectively, indicating that in the absence of adequate state equaliza-

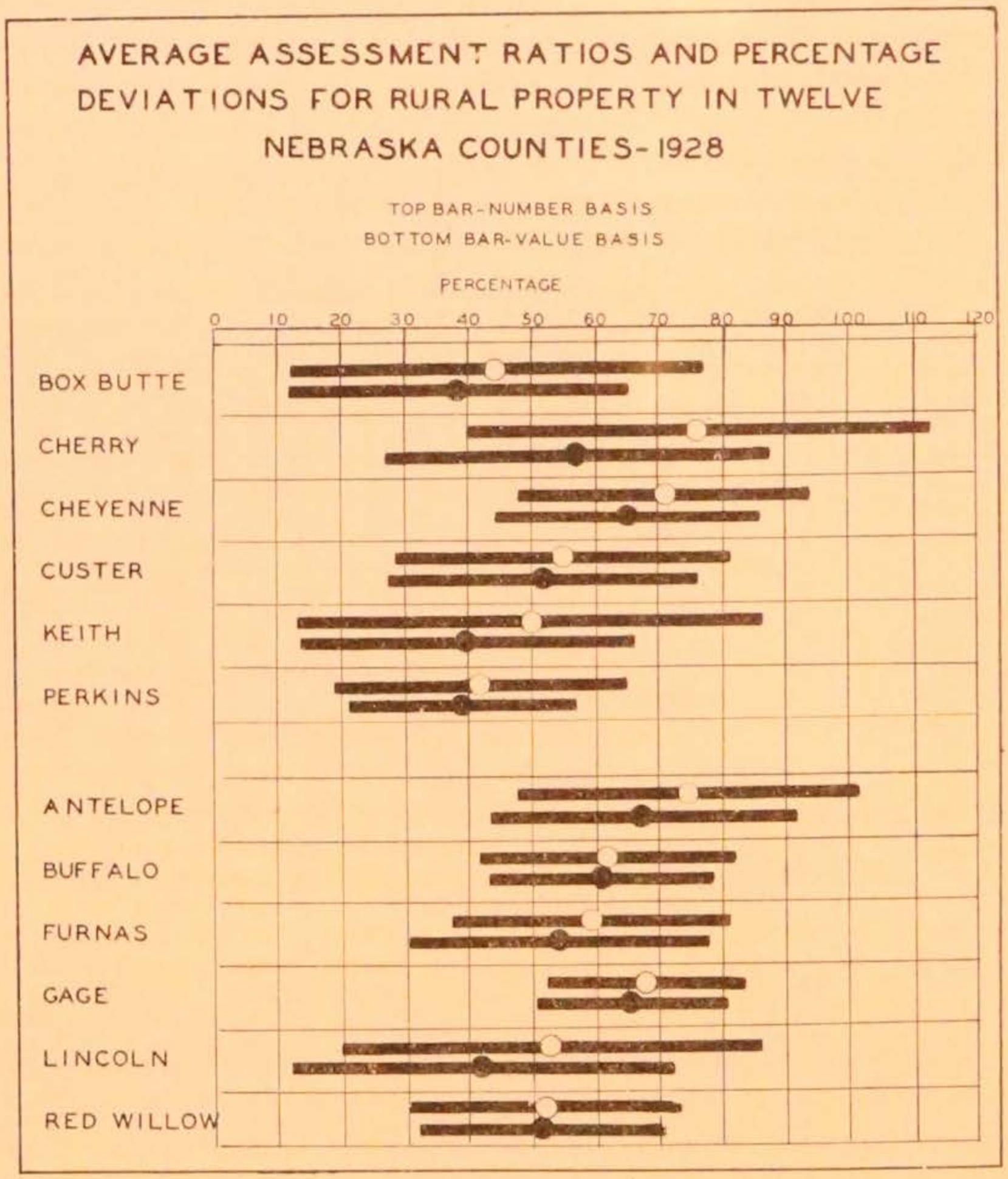

CHART XVI

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle. Each of the upper six counties has a county assessor who is a separate full time official; in each of the lower six counties, the county clerk serves as county assessor, *ex officio*.

tion the inequalities as among counties with respect to the state levy assume serious proportions. This characteristic of the assessment situation is duplicated in the urban property sample.

The average percentage deviation for Nebraska rural property is considerably higher than similar measures for rural property in Wisconsin, Iowa, and Minnesota; on the other hand, city property seems to be assessed somewhat more equitably here than in Iowa or Indiana, but Minnesota and Wisconsin show percentage deviations for urban property that are somewhat smaller than those for Nebraska. The range of assessment ratios of rural property, with the exception of one or two counties, is less than 150 points and in several cases is less than 100. The range of urban

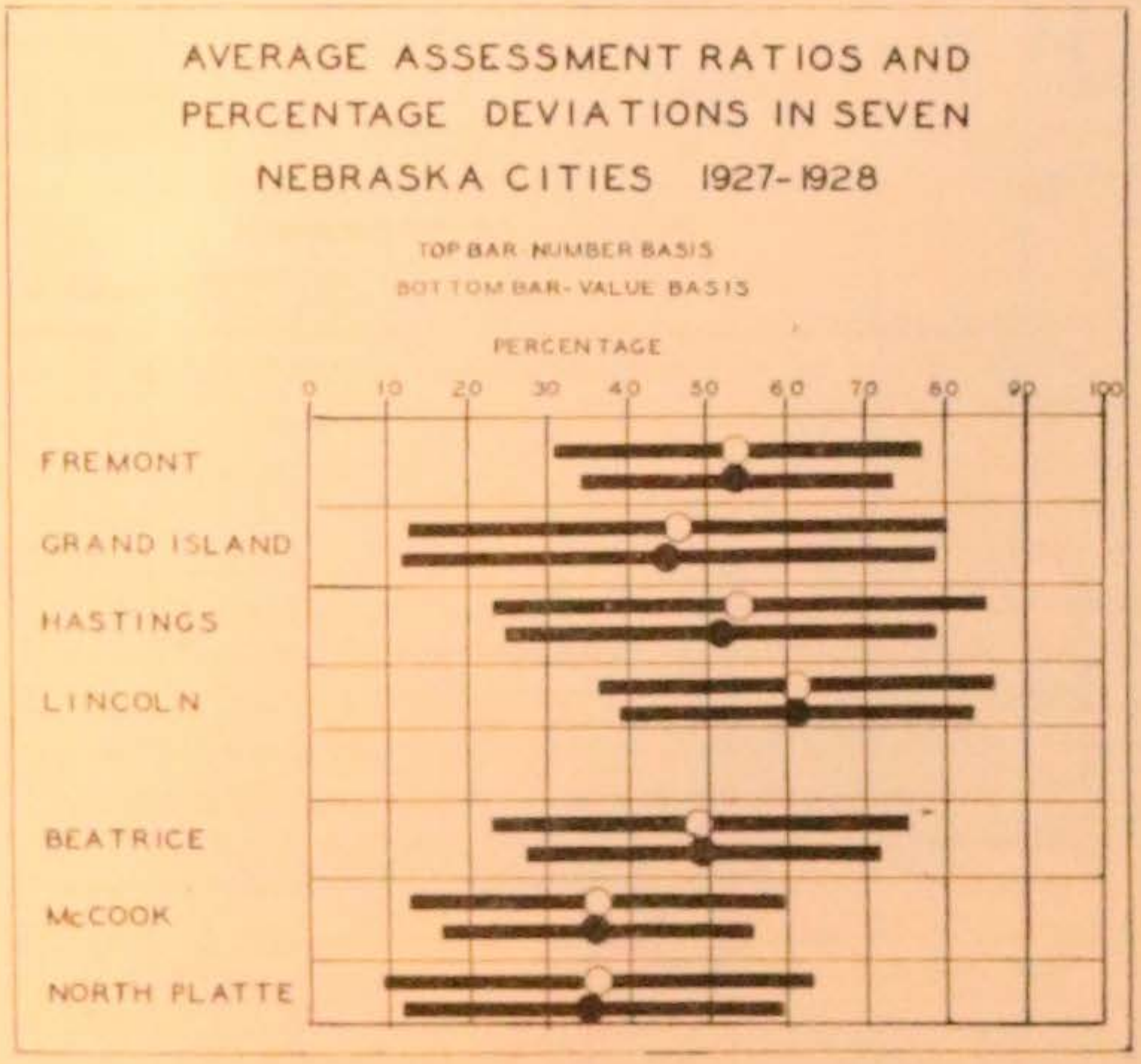

CHART XVII

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle. The four upper cities are located in counties having county assessors who are separate full time officials; the lower three cities are located in counties in which the county clerk serves as county assessor, *ex officio*.

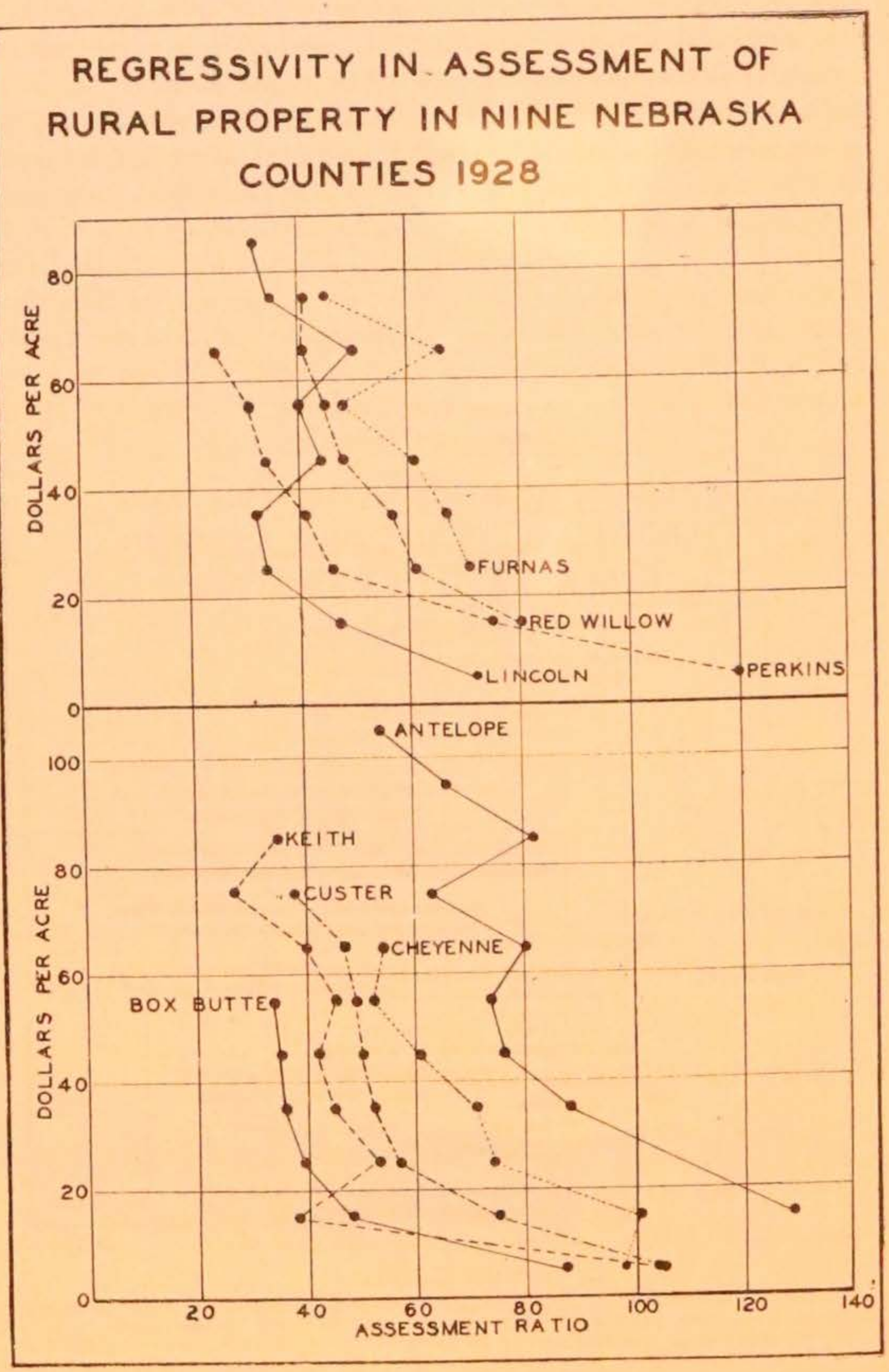
REGRESSIVITY IN ASSESSMENT OF RURAL PROPERTY IN NINE NEBRASKA COUNTIES 1928
DOLLARS PER ACRE
80
60
40
20
0
100
80
60
40
20
0
FURNAS
RED WILLOW
PERKINS
LINCOLN
ANTELOPE
KEITH
CUSTER
CHEYENNE
BOX BUTTE
20
40
60
80
100
120
140
ASSESSMENT RATIO

CHART XVIII

property is in the neighborhood of 200 points in two cities, is about 150 in two others, and less than 100 in the remaining three.

An inspection of the average deviations for the various Nebraska counties indicates a wide range of efficiency of assessment. Some areas have deviations as low as 20 per cent on a number basis and 17 per cent on a value basis, while in others the corresponding percentages are as high as 35 and 30. An additional logical classification may be made that will sort out to a limited extent the counties with larger deviations. When counties having a full-time county assessor are grouped together it is found that they have, as compared with those counties not having a full-time county assessor, a significantly higher average deviation. This situation seems anomolous until one recalls the nature of the office of county assessor in Nebraska, as outlined in the first portion of this chapter. This comparison appears to afford statistical verification of the preliminary judgment that the multiplication of assessment officials having overlapping powers and vaguely defined responsibility may do more to hinder than to help the making of an equitable assessment.

As regards regressivity, the Nebraska cities make a very creditable showing. There is virtual agreement in the number and value means, and a study of Table XXXI fails to reveal any significant tendency toward regression. It is not possible to say the same of Nebraska rural property; it constitutes, considered collectively, the best illustration of regressivity encountered in this study. Chart XVIII and Table XXXII summarize adequately the extent of this regression. In varying degrees each of the twelve counties gives evidence of this highly undesirable assessment feature. It may be that the investigation of city properties shows no evidence of regression because of the limited range of values over which it extends, but with that qualification it appears that the assessment of rural property with respect to this particular type of bias falls far short of the standard of performance attained in the assessment of urban property.

TABLE XXXI

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL, NEBRASKA CITIES, 1927-1928

Value Class	Lincoln No. of Prpts.	Lincoln Assmt. Ratio	Hastings No. of Prpts.	Hastings Assmt. Ratio	Fremont No. of Prpts.	Fremont Assmt. Ratio
$ 0—$ 250						
251— 1,250	54	54%	36	51%	32	51%
1,251— 2,250	141	60	34	60	32	57
2,251— 3,250	118	65	37	51	33	51
3,251— 4,250	108	60	27	54	33	54
4,251— 5,250	67	61	26	56	11	53
5,251— 6,250	62	63	17	54	12	58
6,251— 7,250	44	59	*18	44	* 8	50
7,251— 8,250	17	63				
8,251— 9,250	12	67				
9,251— 10,250	10	62				
10,251— 15,250	20	62				
15,251—up	28	57				
Totals	681		195		161	

*Value class indicated and scattering larger values.

Value Class	Grand Island No. of Prpts.	Grand Island Assmt. Ratio	Beatrice No. of Prpts.	Beatrice Assmt. Ratio	North Platte No. of Prpts.	North Platte Assmt. Ratio	McCook No. of Asst. Prpts.	McCook Ratio
$ 0—$ 250								
251— 1,250	44	57%	29	52%	16	28%	21	37%
1,251— 2,250	32	48	23	49	14	44	6	36
2,251— 3,250	24	42	26	45	15	41	10	32
3,251— 4,250	27	40	10	50	23	37	8	39
4,251— 5,250	17	39	14	46	*19	31	9	40
5,251— 6,250	16	35	6	50			8	34
6,251— 7,250	*11	52	*10	50			* 4	33
Totals	171		118		87		66	

*Value class indicated and scattering larger values.

TABLE XXXII

CORRELATION BETWEEN PRICE PER ACRE AND AVERAGE ASSESSMENT RATIO, RURAL PROPERTY, NEBRASKA, 1927-1928

Price Per Acre	Butte No. of Prpts.	Butte Assmt. Ratio %	Cheyenne No. of Prpts.	Cheyenne Assmt. Ratio %	Custer No. of Prpts.	Custer Assmt. Ratio %
$ 0—$ 10	7	87	4	98	4	105
11— 20	11	48	14	101	8	75
21— 30	17	39	12	74	10	57
31— 40	17	36	25	71	25	52
41— 50	9	35	29	60	21	50
51— 60	6	*34	12	52	10	49
61— 70			6		6	47
71— 80			1	54	12	38
81— 90						
91— 100						
101—up						
Total	67		103		96	

*Value class indicated and scattering larger values.

Price Per Acre	Keith No. of Prpts.	Keith Assmt. Ratio %	Perkins No. of Prpts.	Perkins Assmt. Ratio %	Antelope No. of Prpts.	Antelope Assmt. Ratio %
$ 0—$ 10	7	104	2	120		
11— 20	4	38	4	75	4	129
21— 30	4	53	8	46		
31— 40	5	45	34	41	6	88
41— 50	21	42	29	34	2	76
51— 60	5	45	7	31	5	74
61— 70	2	40	3	*25	3	80
71— 80	5	27			7	63
81— 90	3	*35			5	82
91— 100					8	66
101—up					9	54
Total	56		87		49	

*Value class indicated and scattering larger values.

Price Per Acre	Furnas No. of Prpts.	Furnas Assmt. Ratio %	Lincoln No. of Prpts.	Lincoln Assmt. Ratio %	Red Willow No. of Prpts.	Red Willow Assmt. Ratio %
$ 0—$ 10			37	72		
11— 20			26	47	2	80
21— 30	6	71	8	34	9	61
31— 40	16	67	10	32	11	57
41— 50	9	61	7	44	11	48
51— 60	5	48	2	40	4	45
61— 70	4	56	2	50	5	41
71— 80	12	*45	1	35	7	*41
81— 90			11	32		
91— 100						
101—up						
Total	52		104		49	

*Value class indicated and scattering larger values.

Price Per Acre	Buffalo No. of Prpts.	Buffalo Assmt. Ratio %	Gage No. of Prpts.	Gage Assmt. Ratio %	Price Per Acre	Cherry No. of Prpts.	Cherry Assmt. Ratio %
$ 0—$ 20	2	82			$ .00—$ 2.50	5	179
21— 40	10		4	99	2.51— 5.00	28	92
41— 60	19	60			5.01— 7.50	25	65
61— 80	14	62	8	75	7.51— 10.00	12	54
81— 100	12	54	18	69	10.01— 12.50	7	58
101— 120	5	60	13	66	12.51— 15.00	2	
121— 140	4	63	9	57	15.01— 17.50	1	38
141— 160	7	52	6	*51	17.51—up	5	
161—up	5	51					
	78		58			85	

*Value class indicated and scattering larger values.

Summary of the Nebraska Assessment Situation

The foregoing statistical data and the discussion thereof have shown that very unsatisfactory assessment conditions prevail in Nebraska. The level of assessment of both rural and urban property is very low as a whole, and varies widely as among counties and cities. The lack of uniformity in the assessment of rural property is greater in Nebraska than in any other state investigated. Nebraska urban property is assessed with like inequality, although, as compared with other states, it fares somewhat better than does rural property. Persistent regressivity in the assessment of rural property is found to a greater extent in Nebraska than in any other state.

It is only too apparent that such assessment conditions go hand in hand with an assessment system of the type that exists in Nebraska. A system in which responsibility is widely diffused, in which the Tax Commissioner has manifold duties and inadequate power, in which elective supervisory officials and *ex officio* boards occupy prominent positions, in which the original assessment is made by an inexpert elective township official—such a system cannot be expected to yield other than unsatisfactory results.

The remedial measures that Nebraska appears to need include a more definite allocation of responsibility; more complete and mandatory powers in the office of State Tax Commissioner with respect to the entire assessment procedure, together with sufficient appropriations to ensure proper execution of statutes and orders; and the substitution of an appointive county assessor directly responsible to the State Tax Commissioner for the elective township and county assessors with their present overlapping division of responsibility and duties.

CHAPTER VI

STATE OF INDIANA

The Assessment System

The Indiana assessment system is unusually intricate and complex. Certainly no other state has a greater variety of assessment officials and few, if any, can rival Indiana in this respect. Furthermore, the status, the powers, and the duties of these officials as set forth in the statutes are both vague and involved. These circumstances make it especially difficult to offer in any brief discussion a clear and complete analysis of the functioning of the system.

To Indiana goes the distinction of having been the first state to introduce a modern tax commission. The Indiana State Board of Tax Commissioners was established in 1891, since which time there have been made only minor changes in, and additions to, its powers relating to assessment. However, its field of activities was considerably extended in 1919 by the initiation of the so-called "Indiana Plan" of commission control over local budgets and bond issues. The Board is composed of three members, appointed by the Governor for four-year terms of office, at annual salaries of $4,500. The Governor's selection of appointees is limited only by the provision that not more than two members shall be of the same political party. Recent annual appropriations for the support of all activities of the Board have ranged from $50,000 to $60,000.

The State Board of Tax Commissioners has original jurisdiction over the assessment of all railroad properties, telegraph and telephone lines, pipelines, express companies, sleeping car companies, all public utilities, banks and trust companies and building and loan associations. Although the Board is given by statute the same authority with respect to the assessment of all other property as local assessors and county boards of review, the courts have held that this does not bestow original jurisdiction. In consequence of this and other adverse court decisions, the Board is at present possessed of but limited mandatory powers over sub-

ordinate assessment officials. It may obtain some slight consolation for this from the fact that its supervisory powers are both broad and numerous. It is authorized to prescribe all forms and blanks used by assessment officials; to interpret the revenue laws of the state; to "see that all assessments of property in this state are made according to law;" to enforce penalties prescribed for disobedience of revenue laws; and to visit each county in the state at least once every year for the purpose of inquiring into the administration of the tax laws, meeting with county and local assessors, and instructing them in the proper performance of their duties. It is also directed by law to call an annual meeting of all county assessors of the state, the object thereof being unspecified; presumably, however, the meeting is to serve as a school of instruction for the assessors. Finally, the members of the State Board are required to serve as advisers to the board of review of Marion County, in which the city of Indianapolis is situated.

In the performance of its major functions relating to assessment, the State Board is cramped and restricted on every side by the rigid legal walls that have been erected about it by legislative action. Figuratively speaking, it has been treated, not like a trusted guardian, but rather like an irresponsible ward. It is even subject to statutory control as to the time order of execution of its functions. Specific times are prescribed for the performance of specific duties. Beginning with the first Monday in April of each year the Board is required to sit in four consecutive special sessions, the final one adjourning on the Saturday following the first Monday of December. The convening and adjourning dates of each session are fixed definitely by law. In the first session, the Board assesses all property over which it has original jurisdiction; in the second, it receives applications for revisions from corporations or individuals affected by the assessments fixed at the time of the first session, and examinations are made of the abstracts of assessment of each county, preliminary to later equalization work. At the third sitting, it convenes as the state board of equalization; at the fourth, it reviews and finally determines the tax levies of such taxing districts as have been certified by county auditors, and issues its final reviewing, equalizing, and reassessing orders. The inflexibility of this routine has been a persistent thorn in the side of the State Board.

It is impracticable to present herein a detailed account of the

procedure that the State Board is obliged to follow in dealing with appeals from aggrieved taxpayers or in performing its reviewing and equalizing functions. Whenever the Board undertakes any such activity, it finds itself in a tangle of requirements as to notices, certifications, time and place of hearings, and other red-tape, all of which serve to limit seriously its effectiveness.

As an illustration of the illogical character of the situation, it may be stated that the Board is empowered to reassess individual properties and to order horizontal changes affecting either the entire county or specific classes of property within the county, but it has no power to change the assessment level of a specific township or city. In other words, even though it was clearly apparent that all property in a given township was assessed on a level far below that of the rest of the county, the State Board could do nothing more than *suggest* to the county board of review that the latter issue the necessary and proper remedial orders. Further examples, scarcely less grotesque, of the partial and limited authority of the Board might easily be cited.

Power is given the State Board to remove from office any township assessor, deputy township assessor, or county assessor for "incompetency, neglect of duty or misconduct in office" after five days' notice and a hearing. The assessor has the further right of appeal to the circuit court from such an order of removal. Vacancies thus created are filled by the county assessor in the case of township vacancies, and by the board of county commissioners in the case of county assessors, the appointee in both cases being subject to the approval of the State Board. This power of removal has been exercised but rarely by the State Board, probably more because of the fear of the possible political consequences than because of lack of need for its exercise.

Since the members of the State Board are compelled to devote their time during not less than eight months out of the year to the four "sessions," they are obliged to rely heavily upon the work of their field men, especially for information essential to the performance of equalization functions. Although the Board at one time had as many as fifteen field men, the number has now been reduced to four. It has never attempted to collect sales data as an aid to equalization. Sporadic attempts to assemble such data have been made in the past by a few county assessors and by the field men, but no tabulated results of their efforts are

now on file in the offices of the Board. Thus it appears that the Board is further handicapped, for in addition to the cumbersome nature of the equalization process, it does not have adequate information and data.

An examination of the decisions of Indiana courts in cases involving the authority and powers of the State Board sheds additional light upon the present status of that body. In the majority of instances the courts have interpreted its powers narrowly. The numerous obscure, overlapping, and contradictory provisions of the statutes have left the Board an easy prey to an unsympathetic judiciary. And not infrequently one senses the presence of judicial animosity, thinly-veiled by the language of the decisions.

Indiana is as yet unwilling to admit that efficient fiscal administration is closely associated with broad powers and definite responsibility, and that the venerable system of checks and balances has no place in modern tax administration. It has permitted the State Board of Tax Commissioners to be hamstrung by an unfriendly judiciary and a suspicious legislature. The powers of the Board are far from commensurate with its duties. Furthermore, it is likely that the work of the Board has suffered in consequence of the bad political situation in Indiana in recent years. It seems inevitable that any tax commission, no matter how capable and public-spirited its members, will find its aggressiveness and enthusiasm ebbing in the presence of such handicaps. If such a result has come in Indiana, responsibility rests with the state, rather than with the members of the State Board.

A county assessor is found in each of the ninety-two counties in the state. He is elected by popular vote for a four-year term of office. He must have the single qualification of having been a resident freeholder of the county for not less than four years prior to the date of his election. The annual salary of the county assessor ranges from $800 to $2,950, being graduated in accordance with the population of the county. Statutory provision is made for the assistance of deputies in the more populous counties, and in any county on order of the county commissioners.

The powers and duties of the county assessor are mainly supervisory in character. He is essentially an intermediary between the local assessors on the one hand and the county auditor, the county board of review, and the State Board of Tax Commissioners on the other. He is authorized to visit, advise, instruct,

and otherwise supervise all township assessors of his county, and to list and assess all omitted property. He is also chairman of the county board of review. Although given all powers of the local assessor for the examination of persons and property, few, if any, county assessors become so meddlesome and venturous as to disturb the assessment rolls as filed by the local assessor. Broadly viewed, the Indiana county assessor may be not unjustly characterized as "just another official."

There are in Indiana 1,170 local assessors, or one for each township. Like the county assessor, he is elected by popular vote for a period of four years. The salary ranges from $4.00 per day to $3,750 per annum, depending upon the population and total assessed valuation of the township. It may be noted that the most highly paid township assessor receives $800 per year in excess of the salary of the county assessor under whose direction he is placed by law. The local assessor is given the assistance of necessary deputies, whose remunerations vary from $3.00 to $6.50 per day. It is superfluous to add that deputies are usually "needed."

Practically all listing and assessing of property is done by the township assessor, not by the county assessor. The amount of time devoted by the former to the duties of his office varies from two months to the entire year, the presumption being that the amount of time needed will vary directly with the salary received. Real estate is assessed every four years, and in the real estate years those township assessors who are on a per diem basis are given an additional month in which to complete their assignments. Also the State Board of Tax Commissioners has the power to authorize the reassessment of real estate in any of the other three years, if, in its judgment, sudden and substantial changes in market values of realty have made the previous assessments no longer adequate and equitable.

The board of review of each county is composed of the assessor, the auditor and the treasurer of the county, together with two freeholders of opposite political parties who are appointed by the judge of the circuit court; the county assessor serves as president and the county auditor as secretary. The board convenes annually on the first Monday in June; ordinarily the duration of the session must not exceed twenty-eight days, but the time may be extended in the more populous counties, and in all

counties in those years in which realty is assessed. Each member of the board except the county assessor is paid five dollars for each day in which he is in attendance at the sessions of the board.

The county board of review has equalization powers over the original assessments of individuals, classes of property, and townships within the county. However, before final equalization orders are given, three days' notice must be given to individual taxpayers whose valuations it is proposed to increase, or to whom it is proposed to assess omitted property. The county board must make such revisions of the assessment rolls as are authorized by the State Board of Tax Commissioners, in so far as the latter has power to issue such orders. For the purpose of performing this last-named function, the county board is assembled early in the month of August in a special session of not exceeding five days' duration.

It may be well to call attention at this point to one of the more curious contradictions found in the Indiana statutes. In enumerating the powers of the county assessor, the law states clearly that he shall have all the authority of a township assessor for the assessment of property. Yet, in a later section, the law provides that

> ". . . . it shall be the duty of the county assessor to report to the board of review for the action of the board all corrections and changes in the returns and assessments of township assessors which, in the judgment of the county assessor, ought to be made. The board of review shall consider and act upon all recommendations made by the county assessor . . . ."

The conflict between the two sections is obvious: Is the real intent of the first section actually to confer full original jurisdiction on the county assessor, or is such authority to be restricted to omitted property, or is this assignment of power merely an empty legislative gesture? Or is it the intent of the law to afford the county assessor the alternatives of either making the necessary revisions on his own initiative, or shifting responsibility for the same to the county board of review? If so, the set-up seems idealy constructed for purposes of "passing the buck." Irrespective of the interpretation which these sections may actually have received, they constitute a good example of the kind of statutory obfuscation in which the Indiana tax law abounds.

It seems, then, that the Indiana assessment machinery is of such character as to no longer entitle the state to a place in the front rank. Although a pioneer in the field of administrative reform of property taxation, Indiana has failed to keep pace with the movement which it inaugurated. Its present assessment system is complex and cumbersome, and hence calculated to foster inefficiency. Although nominally the head of the entire taxation system of the state, the State Board of Tax Commissioners has been prevented by the legislature and the courts from developing a policy of aggressive leadership. The retention of the township assessor, following the introduction of the county assessor, involves a needless duplication of official duties and nullifies the results which otherwise might be secured by the county assessor. Centralization of responsibility is scrupulously avoided and lines of authority are broken and diffused. Political expedieney takes precedence over administrative efficieney, as, for example, in the provision that a vacancy due to the removal of an assessor for cause must be filled by an appointee of the same political party as the deposed official. Duties and powers of officials and boards are uncertain, overlapping, and incomplete. Not until these major shortcomings have been recognized and overcome will Indiana be able to regain its former prestige in the field of tax and assessment administration.

The Indiana Assessment Data

The statistical indices of the Indiana assessment situation are based upon a sample of 759 transfers in cities and towns of seven Indiana counties. The Tax Commission having no official collection of sales data, this sample was obtained under the immediate supervision of the authors. Ample care has been taken to insure its freedom from significant bias and error. The sales upon which the assessment ratios are based took place in the years 1928 and 1929; the assessment was as of 1928. These Indiana assessment data are summarized as follows:

Average assessment ratio (number basis)	76.26
Average assessment ratio (value basis)	73.03
Average percentage deviation (number basis)	31.95
Average percentage deviation (value basis)	26.12

Although these average assessment ratios are considerably short of full value, they are distinctly higher than those in Iowa and Nebraska for corresponding types of property, indicating that the statutory instruction is more closely observed in Indiana than

in Iowa and Nebraska. However, it has been indicated heretofore that the principal requisite of good assessment is not the absolute maintenance of some fixed ratio of assessed to sale value, but rather the smallness of the deviations of assessment ratios away from the average ratio, regardless of what that ratio may be. Two aspects of the deviation about the average as given above for Indiana will be considered. In four counties—those including the cities of Logansport, Kokomo, Marion and Shelbyville and Morristown (the last two treated together)—the deviation from the state average is relatively small, but in the other three counties it is large enough to indicate that, as far as the state levy is concerned, the overassessed counties are at a substantial disadvantage, while a corresponding advantage is enjoyed by those underassessed. To be sure, due to the small size of this Indiana sample, it is possible only to suggest the extent to which these tendencies exist.

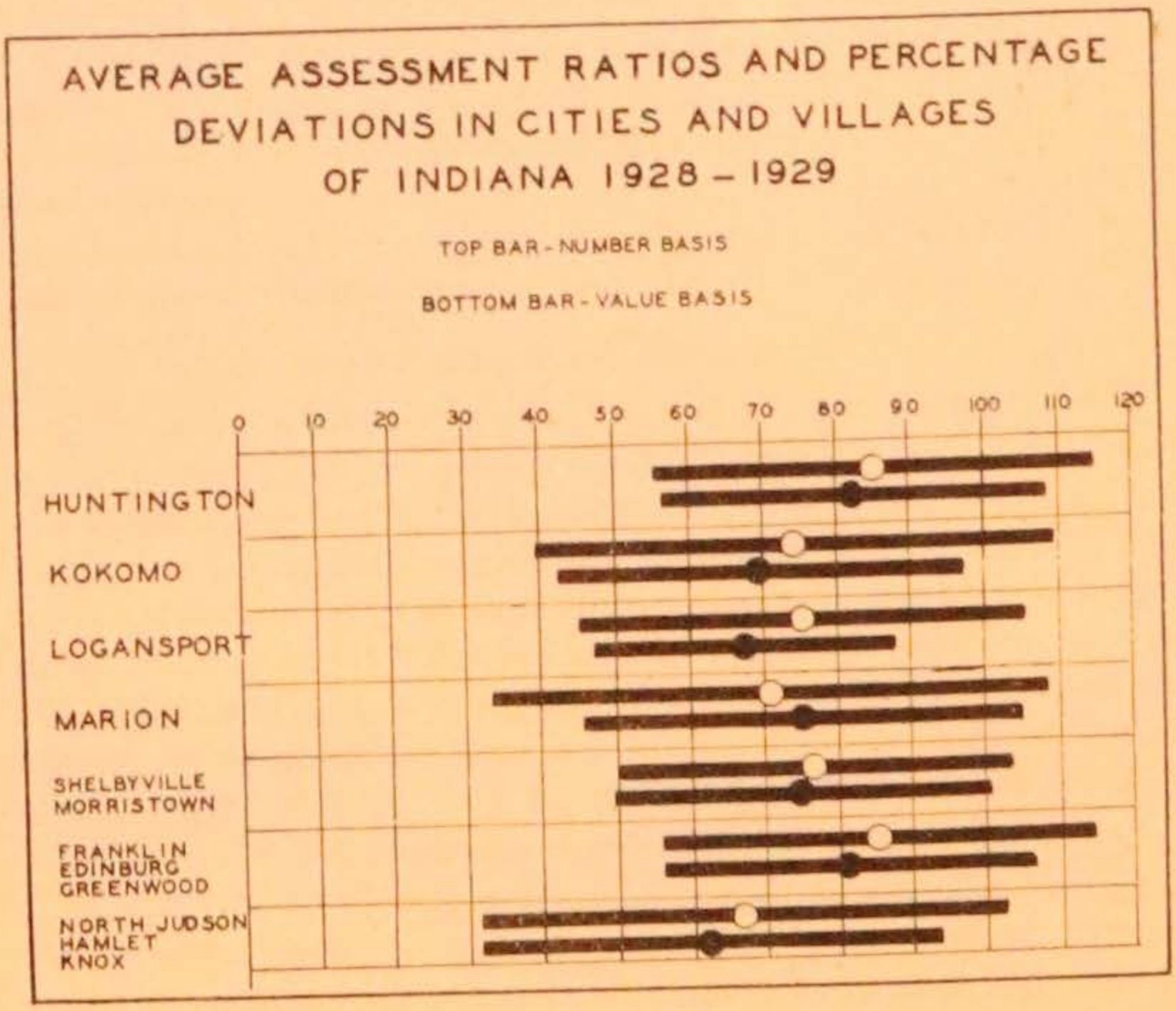

CHART XIX

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

The determination of the average state level is only very approximate, and all that may be said here is that about 50 per cent of the counties probably have assessment levels significantly higher or lower than the average assessment level of the state.

Of more concern, however, is the nature of the deviations of individual parcels of property from the average assessment ratio of the most important levying district in which they lie. In the Indiana sample the city was assumed to be this area in four instances, and the county in three instances. Presented in Tables XXXIII and XXXIV, Chart XIX, and the Indiana Section of the Appendix, are the data for these cities and counties. It may be noted that in the cases of Johnson County, Huntington County, the city of Marion, and the city of Kokomo the range of assessment ratios was from 175 to 200 points; that is, while some properties were assessed at but 15 per cent of their sale value, there were others whose assessed was twice their true value. The minimum range was in Starke County (towns of North Judson, Knox, and Hamlet) where all properties were included in the range 18-148. The quality of an assessment which accords such a wide variety

TABLE XXXIII

SUMMARY OF ASSESSMENT DATA FOR INDIANA, 1928-1929

	Transfers	Total Assessed Value	Total Sale Value	Assessment Ratio Value Basis %	Assessment Ratio Number Basis %	Percentage Dev. Value Basis %	Percentage Dev. Number Basis %
Franklin Edinburg Greenwood	131	$264,380	$325,997	81.04	85.02	24.42	29.12
Shelbyville Morristown	93	199,730	267,966	74.45	76.55	25.16	26.78
Huntington	98	337,650	407,210	82.28	85.96	25.91	31.53
North Judson Hamlet Knox	31	22,650	36,550	62.08	66.71	31.33	35.36
Marion	124	309,970	414,898	74.92	70.82	28.94	37.15
Kokomo	156	231,075	333,150	69.29	73.83	26.79	34.36
Logansport	126	301,608	451,999	67.16	74.94	20.29	29.33

TABLE XXXIV

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL, INDIANA, 1928-1929

Value of Property	Franklin Edinburg Greenwood No. of Prpts.	Assmt. Ratio	Shelbyville Morristown No. of Prpts.	Assmt. Ratio	Huntington No. of Prpts.	Assmt. Ratio
$ 0—$ 250	8	116%	3	126%	15	95%
251— 1,250	54	89	19	80	20	88
1,251— 2,250	23	78	20	75	25	83
2,251— 3,250	17	80	20	72	10	99
3,251— 4,250	12	76	14	72	14	76
4,251— 5,250	3	71	7	68	3	75
5,251— 6,250	3	68	3	68	11	*88
6,251— 7,250	2	63	3	93		
7,251—up	7	91	4	77		
Total Properties	131		93		98	

*Value class indicated and scattering larger values.

Value of Property	North Judson Hamlet, Knox No. of Prpts.	Assmt. Ratio	Marion No. of Prpts.	Assmt. Ratio	Kokomo No. of Prpts.	Assmt. Ratio	Logansport No. of Prpts.	Asst. Ratio
$ 0—$ 250	3	98%	13	69%	15	63%	4	54%
251— 1,250	17	64	34	73	54	84	28	94
1,251— 2,250	6	70	26	69	35	81	40	77
2,251— 3,250	5	53	14	72	20	64	27	70
3,251— 4,250			13	67	10	62	11	62
4,251— 5,250			3	60	11	56	9	59
5,251— 6,250			8	67	4	68	7	*63
6,251— 7,250			3	73	3	61		
7,251—up			8	81	4	68		
Total Properties	31		124		156		126	

*Value class indicated and scattering larger values.

of treatment to properties that should be assessed at approximately the same percentage of their true value may best be indicated by reference to the average percentage deviations. These range from 27 per cent to 37 per cent when calculated upon the number basis, and from 20 per cent to 31 per cent when computed upon the value basis. The state averages, 32 per cent and 26 per cent respectively, are substantially the same as those for city property in Iowa and Nebraska but significantly higher than those for Wisconsin and Minnesota.

It may be well to call attention once again to the reason for the extreme divergence between the weighted and unweighted indices for the average percentage deviation and the average assessment ratio, inasmuch as Indiana offers some excellent examples of this divergence. In the case of Marion, Grant County (See Chart

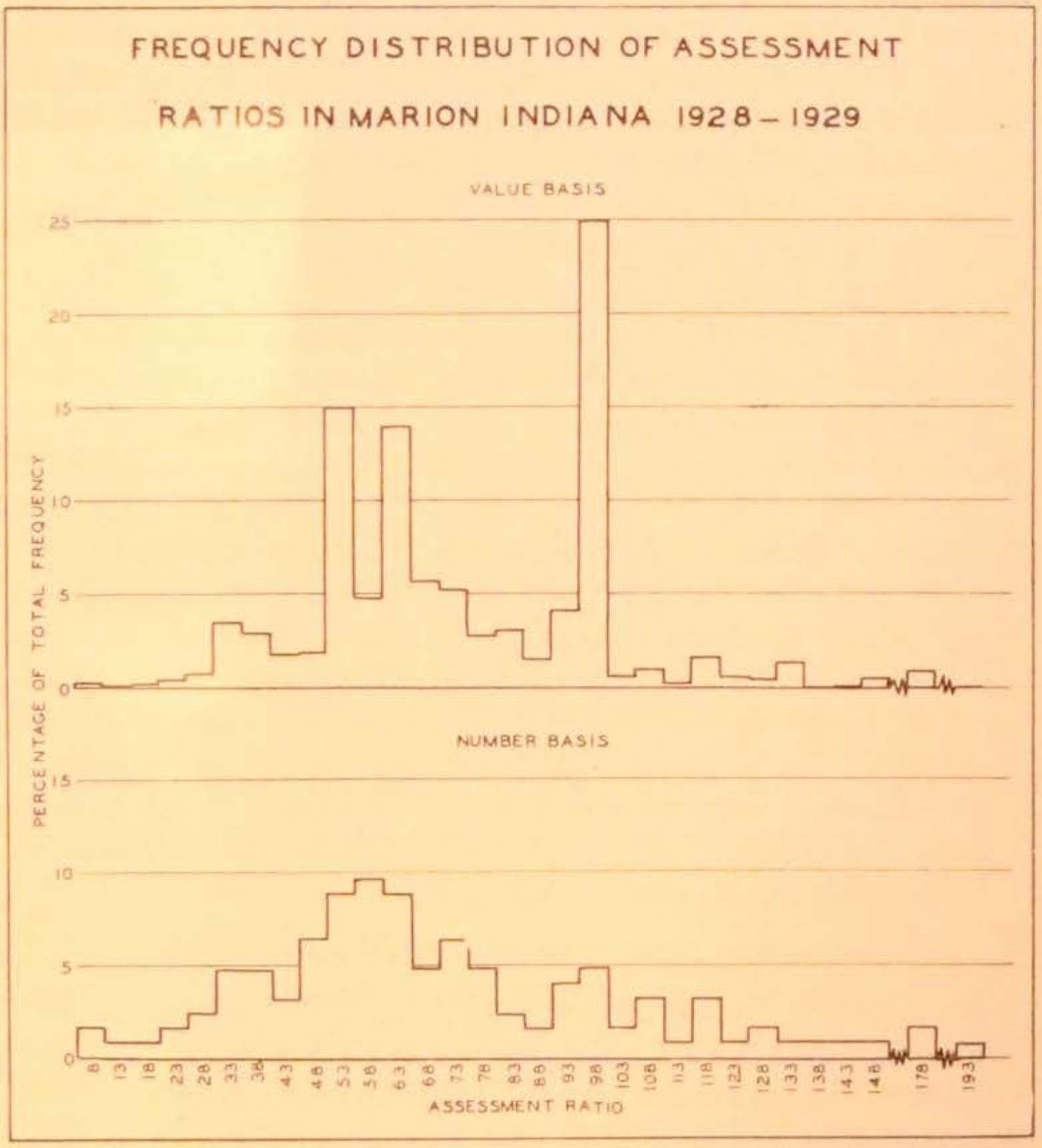

CHART XX

XX), is plotted the relative frequency with which different ratios occur when each transfer is considered a unit (number basis) and when each dollar's worth of property is considered a unit (value basis). The greater irregularity of the latter curve is due to a few very large properties whose assessment ratios and deviations tend to dominate the mean ratio as well as the average percentage deviation of the sample for that county. In such cases the number basis gives a substantially better approximation to the true mean and deviation.

It has been noted before that one-half of the average percentage deviation, when computed on the value basis, indicates the

percentage of the total tax burden that has been misplaced. This means in the case of the Kokomo sample, for example, that about 14 per cent of the tax is paid by the wrong individuals. That is, certain overassessed taxpayers overpay to varying degrees this percentage of the total tax, while underassessed property owners underpay to a corresponding extent. This measure is a fair test of the efficiency of any given assessment and may be expressed in concrete terms, readily interpreted. It minimizes the poorness of assessment, however, if it is assumed that underassessment is as undesirable as its inevitable concomitant, overassessment.

Some additional information may be obtained concerning the nature of assessment in Indiana if the size of the assessment ratio is compared with the sale value of that property (see Table XXXIV). Considerable evidence of regression is found in four Indiana counties, but the tendency in that direction in the other three is not persistent enough to warrant attaching any more significance to it than to say that, if there is a relation between sale value and the assessment ratio, it is not a direct one. The irregularity in the assessment levels of different value classes is striking. However, despite the narrow range of the property values, the Indiana data, as a whole, indicates the existence of a general tendency to assess urban property regressively.

Summary of the Indiana Assessment Situation

As the basis for conclusions regarding the assessment situation within Indiana, the statistical data are subject to the limitations of their relatively small number and their restriction to urban property. Nevertheless, they afford sufficient evidence to justify the conclusion that great inequity exists in the assessment of urban property. If Indiana resembles other states, it is likely that somewhat greater uniformity prevails in the assessment of rural property; this is problematical, however. The data indicate not only that Indiana urban property is assessed as erratically and with a lack of uniformity at least as great as is found in any of the states investigated, but also that considerable regressivity in assessment is present.

However, such an assessment situation is an almost inevitable consequence of reliance upon assessment machinery as cumbersome as that found in Indiana. Attention has already been directed toward the more serious defects of the Indiana system of assess-

ment administration. It is unlikely that a substantial and lasting improvement in assessment conditions can be realized without overhauling and modernizing the assessment machinery of the state. The changes that Indiana needs most urgently include unshackling the State Board of Tax Commissioners and extending its powers and responsibility; abolishing the township assessor and making the county assessor directly responsible to the State Board; safeguarding the appointment of assessment officials and the performance of their functions from immediate political influences; and modernizing and improving the procedure and technique of appraisement.

CHAPTER VII

CITIES OF DULUTH AND CLEVELAND

This study well under way, it became apparent that none of the states selected for investigation had a system of assessment administration without serious shortcomings. Furthermore, it appeared there were none within which assessment conditions were wholly satisfactory. To escape the charge that the assessment ideal here proposed is an impossible one (see page 11), it is necessary only to cite examples of concrete situations in which this ideal has been closely approximated. With this thought in mind, the mid-western states were surveyed, with the result that Duluth, Minnesota, and Cleveland, Ohio, were selected as the two best assessed important areas to be found within this region. Duluth's superiority in this respect is acclaimed throughout Minnesota, and Cleveland is commonly regarded by competent observers as outstanding among the larger cities of the country. Hence it seems justifiable, in considering these two cities, to stress assessment methods and technique.

Duluth

The city of Duluth has a population of over 100,000 and an area of 67 square miles. It is organized as a special charter city, operating under the commission form of government. In consequence, it has been able to provide for the selection of its assessor by the city commissioners rather than by popular vote. The functions of the Duluth assessor are somewhat more extensive than are those of like officials in other Minnesota cities: in addition to regularly assessing all tangible and intangible property, he spreads the special assessments for all purposes and checks all petitions for public improvements, condemnations, and vacations. At the present time he is assisted by a regular staff of eleven persons, all civil service employees with permanent tenure of office. This force is augmented by temporary employees during the rush seasons. The total cost of conducting the office during 1929 was $27,506, classified according to object of expenditure as follows:

Real Estate	$ 13,261
Personal Property	7,500
Special Assessments	4,316
Public Works Department	1,054
Water and Light Department	996
City Clerk	266
City Planning	113

The present Duluth assessor, Mr. J. A. Scott, has served continuously in that capacity since April 15, 1913. During this time his salary has been fixed at $4,000 per annum. His present chief deputy has been connected with the office for the past twelve years. This uninterrupted period of Mr. Scott's service has doubtless contributed materially toward establishing and maintaining the high administrative standards of the office. This end has been furthered also by the interest and cooperation in the work of the office displayed by members of the regular staff in consequence of the permanency and semi-professional status of their positions.

Mr. Scott believes firmly that the work of the assessor is simplified and expedited by playing the game with every taxpayer with all of his cards on the table. Therefore, he attempts to make it easy for every property owner to obtain not only full information relative to the assessed value of his own property and his neighbors', but also all facts pertaining to their respective appraisements. There are, all told, about 110,000 separate parcels of property within the corporate limits of Duluth. A large map (8x30 ft.) is hung on the wall of the assessor's office; on this are shown the official description of each parcel, its full appraised value, the date and consideration of sale of each transferred parcel, together with location of water, gas, and sewer mains, and conditions as regards surfacing of each street and alley. All information upon this map is kept strictly to date. The map is always open to inspection by the public; indeed, taxpayers are encouraged to examine it and critically compare assessed values, both as between individual properties and sections of the city. In the opinion of Mr. Scott, this map is an invaluable aid in developing an attitude of helpful cooperation and good will on the part of property-owners.

All structures are appraised by the cubic foot method. Dwellings are classified into six groups, each of which is subdivided in accordance with the material used in the exterior finish, such as brick, stucco, etc. Appropriate classifications are used for

other types of structures. These valuation schedules always reflect current costs of construction. They are not applied in an arbitrary, mechanical fashion; on the contrary, effort is made to take adequate account of such factors as suitability of the building to the site, annual gross rental, changes in character of the neighborhood, and obsolescence. Depreciation is calculated and allowed annually in accordance with standard engineering estimates. However, after a structure has been depreciated 75 per cent of its reproduction cost, no further allowance is made so long as it is habitable or usable.

A specially prepared card record is on file for each parcel of real estate within the city. On the front side are given the name of the owner and the legal description of the property, together with an historical record of the assessed values of the land and improvements during the last two decades; on the reverse side is noted full information regarding the construction details of the building, together with the consideration paid in the case of all transfers. A reproduction of a sample record card is shown in Section F of the Appendix.

The front foot method of appraising land has not been adopted in Duluth. Mr. Scott is a firm believer in the use of sales data as a guide toward equity and uniformity in assessments. For the past fifteen years he has kept a record of all transfers, endeavoring to ascertain the exact consideration in every case. Although less than half of the deeds placed of record contain the true and full sale price, he has been able to secure this information in most cases through the cooperation of the real estate agencies of the city. He estimates that the actual sale consideration is now being obtained in 98 per cent of all transfers. A careful study of all available data relative to sale values and rental contracts is made prior to beginning each biennial assessment of realty.

Mr. Scott has kindly furnished the authors with a summary of all sales data collected for the city of Duluth during the years 1918-1929, inclusive. This material covers 19,267 transfers, 9,035 of which are of improved, and 10,232 of unimproved property. Tables XXXV, XXXVI, and XXXVII present the results of a statistical analysis of these data. The values given in these tables are on the basis of the assessment percentage authorized by the Minnesota classification statute for urban property, that is, forty per cent of full and true value. Therefore, although

the total value of these properties is here shown as $22,991,993, their actual sale value was in excess of $57,000,000.

It may be pointed out that the average assessment ratio of all Duluth property is approximately ten points below the average assessment level of urban property in other Minnesota cities, as shown in Chapter IV. Both improved and unimproved property has a higher assessment ratio on the value basis than on the number basis of calculation. This is the reverse of the situation that has been found ordinarily to exist in other, less well-assessed districts, and indicates complete absence of regressivity in the assessment of Duluth realty. The level of assessment of improved realty is a few points below that of unimproved property.

It will be noted that the average percentage deviation from uniformity is approximately five points greater for unimproved

TABLE XXXV

DULUTH, MINNESOTA

IMPROVED REAL ESTATE, 1918-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value	% of Total Value
21— 25	2	.022	100.000	$ 2,244	.011
26— 30	9	.100	99.978	8,832	.045
31— 35	21	.232	99.878	47,709	.244
36— 40	59	.653	99.646	81,721	.418
41— 45	114	1.262	98.993	112,647	.576
46— 50	334	3.697	97.731	500,358	2.559
51— 55	1,006	11.135	94.034	1,702,298	8.707
56— 60	1,881	20.819	82.899	3,070,855	15.706
61— 65	1,241	13.735	62.080	1,760,474	9.004
66— 70	726	8.035	48.345	1,458,878	7.462
71— 75	1,972	21.826	40.310	4,147,596	21.214
76— 80	779	8.622	18.484	1,858,332	9.505
81— 85	258	2.856	9.862	336,113	1.719
86— 90	499	5.523	7.006	3,129,272	16.005
91— 95	90	.996	1.483	1,204,081	6.159
96— 100	27	.299	.487	42,271	.216
...— ...					
106— 110	6	.066	.188	34,809	.178
111— 115	9	.100	.122	2,828	.015
...— ...					
121— 125	1	.011	.022	50,164	.256
...— ...					
131— 135	1	.011	.011	66	.001
Totals	9,035	100.000		$19,551,548	100.000

Average assessment ratio (number basis) 66.09
Average assessment ratio (value basis) 71.08
Percentage deviation (number basis) 14.63
Percentage deviation (value basis) 16.77

TABLE XXXVI

DULUTH, MINNESOTA

UNIMPROVED REAL ESTATE, 1918-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value	% of Total Value
11— 15	9	.088	100.000	$ 908	.026
16— 20	45	.440	99.912	7,772	.226
21— 25	101	.987	99.472	15,878	.462
26— 30	92	.899	98.485	13,586	.395
31— 35	268	2.619	97.586	47,982	1.395
36— 40	358	3.499	94.967	53,663	1.560
41— 45	285	2.786	91.468	50,877	1.479
46— 50	118	1.153	88.682	14,494	.421
51— 55	377	3.685	87.529	163,719	4.759
56— 60	1,318	12.881	83.844	385,826	11.214
61— 65	1,458	14.249	70.963	150,679	4.380
66— 70	1,008	9.851	56.714	290,799	8.452
71— 75	1,151	11.249	46.863	267,753	7.782
76— 80	305	2.981	35.614	262,074	7.617
81— 85	977	9.549	32.633	371,783	10.806
86— 90	1,493	14.591	23.084	894,038	25.986
91— 95	397	3.880	8.493	153,640	4.465
96— 100	123	1.202	4.613	29,378	.854
101— 105	102	.997	3.411	136,194	3.959
106— 110	83	.811	2.414	38,180	1.110
111— 115	122	1.192	1.603	25,363	.737
116— 120	18	.176	.411	13,925	.405
121— 125	6	.059	.235	933	.027
126— 130	8	.078	.176	40,309	1.172
... — ...					
136— 140	10	.098	.098	10,692	.311
Totals	10,232	100.000		$ 3,440,445	100.000

Average assessment ratio (number basis) 69.47
Average assessment ratio (value basis) 76.68
Percentage deviation (number basis) 21.02
Percentage deviation (value basis) 19.24

than for improved property, from which it follows that buildings have been assessed more uniformly than have sites. This supports the contention made in Chapter I that the competent assessor finds the accurate appraisal of sites more difficult than that of buildings. In his appraisements of structures, the expert assessor is able to substitute certainty for guess-work to such an extent that valuation becomes a semi-mechanical procedure; on the other hand, because of the fluctuating, speculative and uncertain character of site values, the assessor, no matter how skilled and painstaking he may be, can scarcely do more than establish approximations to "true values." It will be remembered that the data for St. Cloud, Minnesota, showed that the assessor

TABLE XXXVII

DULUTH, MINNESOTA

ALL REAL ESTATE, 1918-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value	% of Total Value
11— 15	9	.047	100.000	$ 931	.004
16— 20	45	.234	99.953	7,772	.034
21— 25	103	.534	99.719	18,122	.078
26— 30	101	.524	99.185	22,418	.098
31— 35	289	1.500	98.661	95,691	.416
36— 40	417	2.164	97.161	135,384	.589
41— 45	399	2.071	94.997	163,523	.711
46— 50	452	2.346	92.926	514,852	2.239
51— 55	1,383	7.178	90.580	1,866,017	8.116
56— 60	3,199	16.604	83.402	3,456,681	15.034
61— 65	2,699	14.008	66.798	1,911,154	8.312
66— 70	1,734	9.000	52.790	1,749,676	7.610
71— 75	3,123	16.209	43.790	4,415,327	19.203
76— 80	1,084	5.626	27.581	2,120,406	9.222
81— 85	1,235	6.410	21.955	707,896	3.079
86— 90	1,992	10.339	15.545	4,023,310	17.499
91— 95	487	2.528	5.206	1,357,720	5.905
96— 100	150	.779	2.678	71,649	.312
101— 105	102	.529	1.899	136,194	.592
106— 110	89	.462	1.370	72,989	.318
111— 115	131	.680	.908	28,191	.123
116— 120	18	.093	.228	13,925	.061
121— 125	7	.036	.135	51,098	.222
126— 130	8	.042	.099	40,309	.175
131— 135	1	.005	.057	66	.001
136— 140	10	.052	.052	10,692	.047
Totals	19,267	100.000		$22,991,993	100.000

Average assessment ratio (numbr basis) 67.88
Average assessment ratio (value basis) 71.91
Percentage deviation (number basis) 18.08
Percentage deviation (value basis) 16.33

of that city appraised structures more inequitably than sites. This further supports the conclusion that an untrained, in contrast with a trained, assessor experiences his greatest difficulty in connection with the appraising of buildings.

Charts XXI, XXII, and XXIII are rectangular frequency diagrams which present graphically the data shown in Tables XXXV, XXXVI, and XXXVII. A comparison of these charts with similar diagrams for other cities appearing previously in this study demonstrates the more uniform character of the Duluth assessment. Although the range of the distribution of all Duluth properties is 125 points, it is found that 75 per cent of the properties fall within the thirty-five point range between 53 per

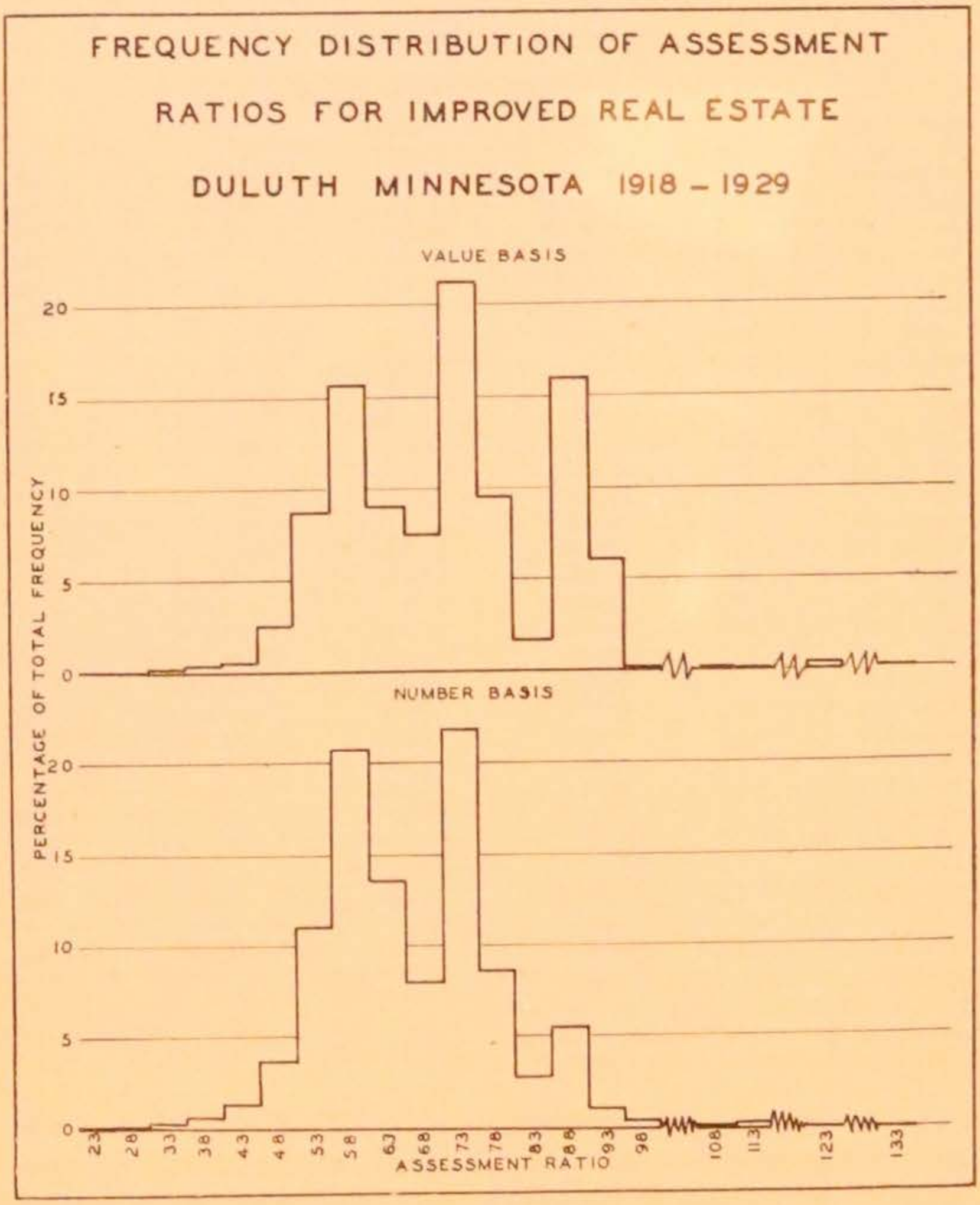

CHART XXI

cent and 88 per cent. The erratic, irregular character of the frequency distribution—shown graphically by the alternating "hills and valleys" of these graphs—is due in part to the fact that the assessment ratios were calculated as approximations, rather than being accurately computed to the third place beyond the decimal point. Also, one should note the complete absence in these distributions of any tendency toward skewness, either positive or negative.

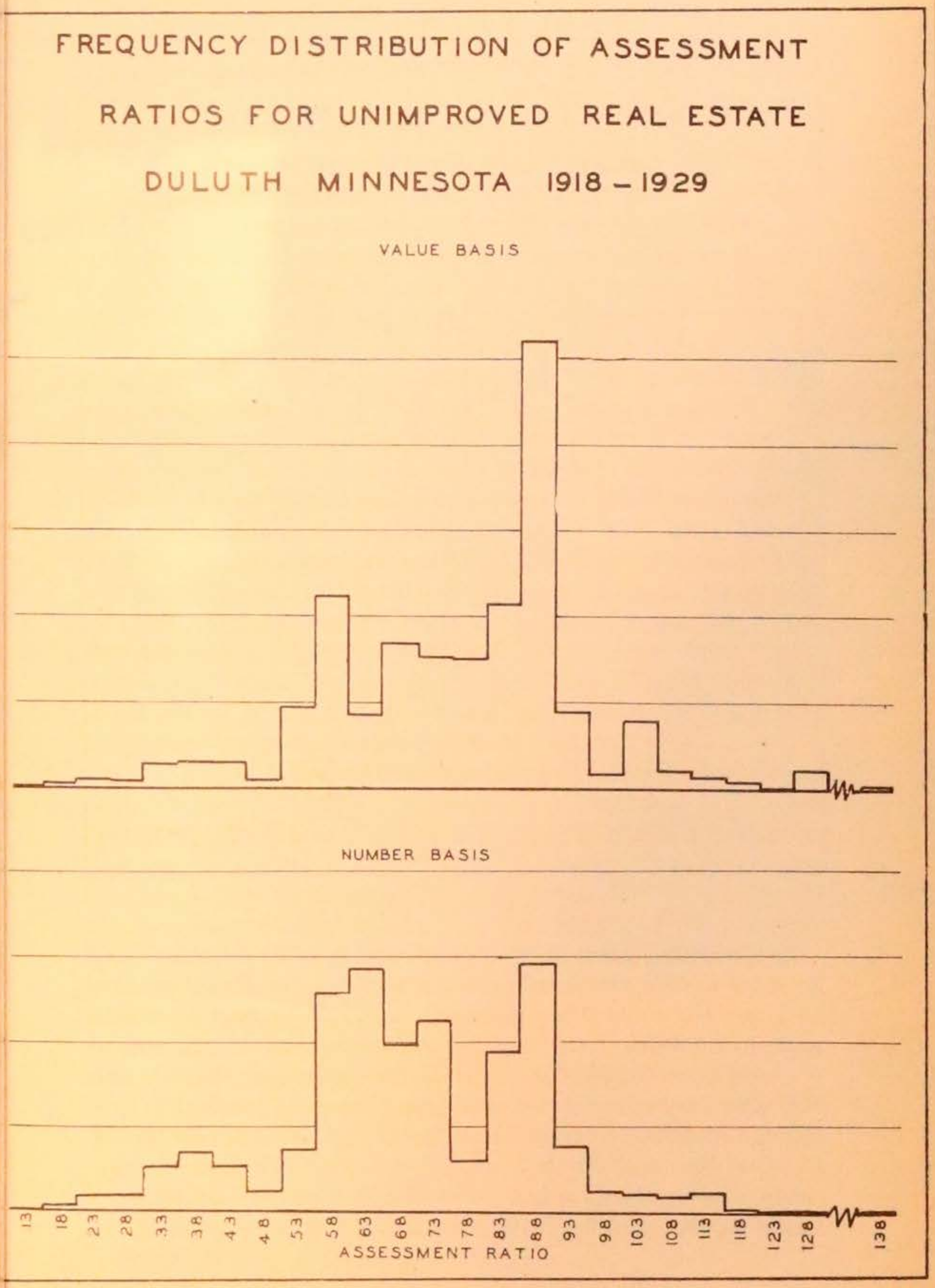
FREQUENCY DISTRIBUTION OF ASSESSMENT
RATIOS FOR UNIMPROVED REAL ESTATE
DULUTH MINNESOTA 1918 – 1929
VALUE BASIS
PERCENTAGE OF TOTAL FREQUENCY
NUMBER BASIS
13 18 23 28 33 38 43 48 53 58 63 68 73 78 83 88 93 98 103 108 113 118 123 128 138
ASSESSMENT RATIO

CHART XXII

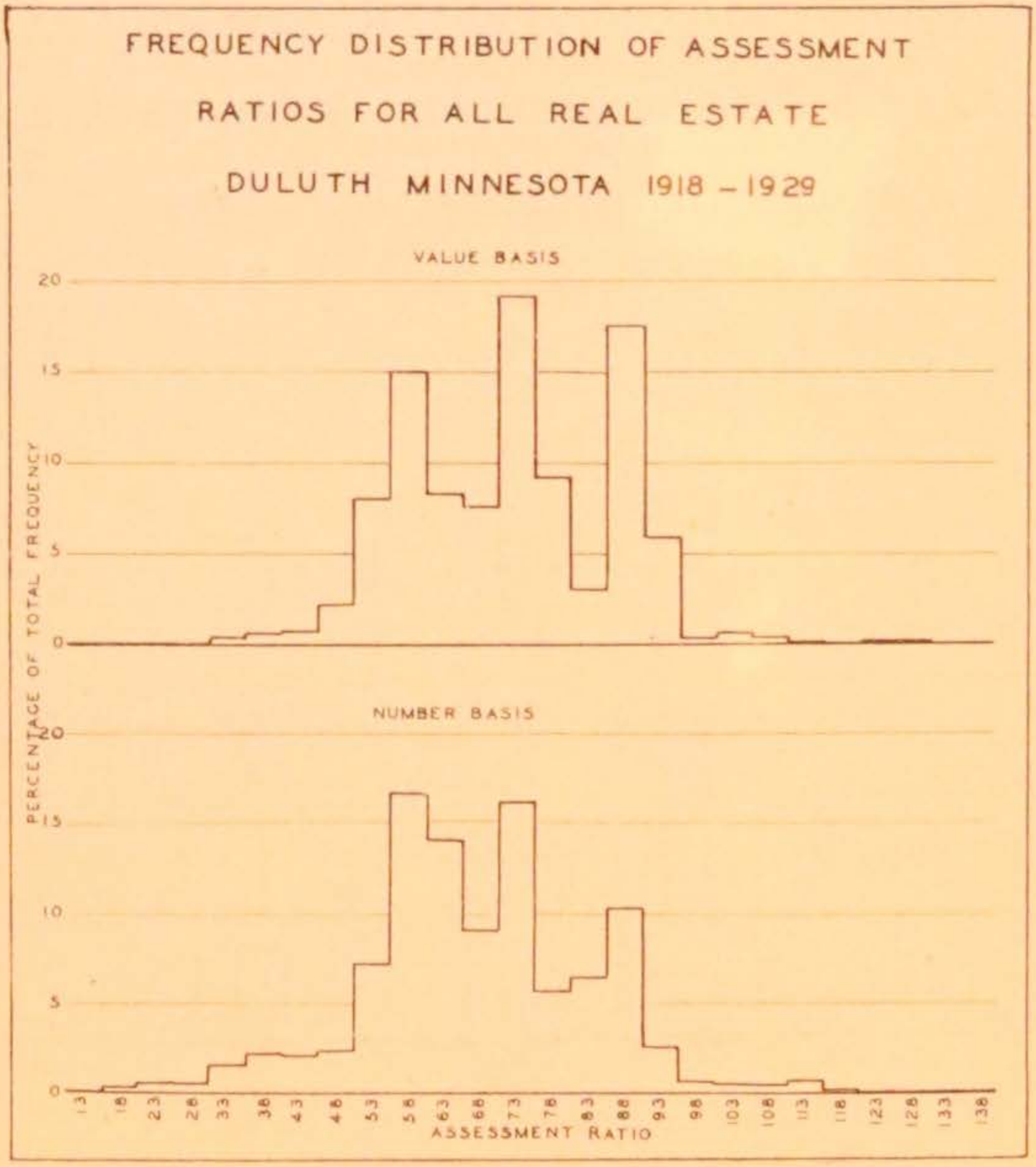

CHART XXIII

The statistical indices of the Duluth assessment situation, if accepted at face value, indicate that it is more equitably assessed than any other city of comparable size for which data have been presented herein. Yet, its margin of superiority in this respect is so slight as to afford little basis for designating Duluth as a city where assessment conditions approximate the ideal. The percentage deviation figures for all Duluth property are 18.08 and 16.33 on the number and value bases, respectively; comparatively viewed, this is a good showing, but scarcely an approximation to the ideal tentatively set up in Chapter I, namely, an

average percentage deviation of ten per cent. However, it would be a serious error to accept these Duluth indices at face value. Two important conditioning factors must be taken into account:

First, data for all other cities herein presented are for periods of one year, whereas these 19,267 Duluth transfers cover a twelve-year period. During these twelve years the Duluth assessment level has undoubtedly been subject to considerable fluctuation. To lump together all these transfers and to calculate an average deviation for them on this basis inevitably results in establishing a deviation figure several points larger than would have been found if each year's transaction had been treated as a unit and an average taken of the twelve figures thus computed (see page 27).

Second, all data other than these for Duluth have been edited as carefully as possible, and all transfers, the representative character of which appeared questionable, have been deleted. These Duluth data, on the contrary, have been subjected to no such editing, and include *all* transfers for which Mr. Scott was able to obtain the actual sales consideration, irrespective of the fact that many of them represented forced sales, intra-family transfers, "sucker" sales, and the like. The effect of this lack of editing, of course, has been to materially increase the average percentage deviation figures for these data.

Obviously, it is impossible to estimate accurately the extent to which these two disturbing factors have operated to increase the average percentage deviation figures for Duluth. However, it seems not unlikely that if their influence could have been eliminated, the percentage deviation figure for Duluth would not have been greatly in excess of the "ideal" of ten per cent. Although conclusive statistical proof is lacking, the highly superior character of the Duluth assessment may be inferred from these data.

Through the further courtesy of Mr. Scott, detailed information covering 596 transfers for the years 1927-1929 was obtained for the purpose of investigating the Duluth assessment situation relative to regressivity. These data have been subjected to the appropriate statistical treatment and the results of such analysis are presented in Table XXXVIII. A definite suggestion of regressivity may be noted in the five lowest value classes; this is

probably due to the concentration of unimproved properties within these classes. It will be remembered that in Duluth, unimproved property has a somewhat higher level of assessment than improved property. Hence, the regressive tendency found in these low value classes is a reflection of the decreasing proportion and waning influence of unimproved properties in one value class as compared with the next lower class. The ten higher value classes show no tendency whatsoever toward regression. This table indicates that Duluth is in a more satisfactory con-

TABLE XXXVIII

CORRELATION BETWEEN VALUE OF PROPERTY AND ASSESSMENT LEVEL IN DULUTH, 1927-1929

Value Class	Number of Properties	Average Assessment Ratio %
$ 0—$ 250	29	90
251— 1,250	181	85
1,251— 2,250	60	83
2,251— 3,250	62	78
3,251— 4,250	41	76
4,251— 5,250	30	78
5,251— 6,250	28	74
6,251— 7,250	33	77
7,251— 8,250	19	72
8,251— 9,250	13	80
9,251— 10,250	13	78
10,251— 15,250	35	78
15,251— 20,250	13	90
20,251— 30,250	10	82
30,251 and over	20	87
Total	596	*83

*City Assessment Level.

dition with respect to this phase of assessment than any other city for which data have been secured.

Cleveland

Although the Ohio assessment system is not discussed elsewhere in this study, it will not be necessary to analyze it in order to describe the Cleveland situation. Aside from Cleveland, the state appears to possess nothing relating to assessment administration which may be regarded with particular pride. The city of Cleveland has 900,000 inhabitants, but the county of Cuyahoga, in which it is situated, has a population in excess of one million. The discussion which follows is really applicable not to Cleveland alone, but to the whole of Cuyahoga County,

since all property within the county is assessed under the direction of the County Auditor.

The present status of assessment administration in Cleveland may be more adequately comprehended in the light of its historical background. Prior to 1910, Ohio real estate was appraised decennially by elected local assessors. It followed that in Cleveland the property was assessed by twenty-five ward officials, each working independently of the others. Although the statutes provided that property be appraised at its true value, it came about that the level of assessment varied from between thirty per cent to sixty per cent as between wards, with an even greater departure from uniformity as between individuals. However, prior to the appraisal of 1910, the Ohio legislature enacted a law providing that each city of the state might select a board of five assessors and that such board should assess all property within its city.

Acting under this statute, Mayor Tom Johnson selected John A. Zangerle to head the Cleveland Board of Assessors. At the time of his appointment, Mr. Zangerle was a man in early middle age, a successful retired lawyer, without previous political experience. Since that time he has been continuously in public service, whole-heartedly devoted to the ideal of improving assessment and taxation conditions within his city and state. He is today universally recognized as one of the foremost authorities in the field of urban real estate valuation.

Despite the fact that at that time other large cities were following the old "rule of thumb" methods of appraising, Mr. Zangerle determined that he would attempt to introduce in Cleveland a genuinely scientific approach to the problem of assessment. He announced that the letter of the law would be carried out and all property appraised at full and true value. Although this announcement at once precipitated great consternation among the property owners, he was not to be dissuaded or discouraged. The full value assessment was carried to completion; the Cleveland tax rate dropped from $3.48 per $100 in 1910 to $1.36 in 1911; and the program eventually received hearty public approval. Such was the beginning of the new order in the assessing of Cleveland.

Largely as a result of his successful direction of the 1910 appraisal, Mr. Zangerle was in 1912 elected County Auditor of

Cuyahoga County, and has occupied this position continuously to the present time. Although he is affiliated with the Democratic party and Cleveland is normally a strong Republican area, he has been re-elected five times, each time by a larger majority. At the present time there is no disposition on the part of the Cuyahoga County Republican Committee to sponsor the candidacy of an opponent to Mr. Zangerle. His political popularity has been furthered by the fact that he has made all of his appointments on the basis of merit alone, without thought of party bias. For example, Mr. George E. Asling, chief clerk in charge of assessment work, is a Republican and, incidentally, receives an annual salary of $6,100, or $100 more than Mr. Zangerle.

In 1916 a new Ohio law became effective providing that the county auditor should have entire responsibility for the assessment of all real and personal property in this county; or in other words, the auditor was made *ex officio* county assessor. This provision is still in force. An auditor may personally appoint his chief aids if he so desires, but in Cuyahoga County most of the members of the auditor's staff are employed under state civil service regulations. These assistants are permanent, full-time employees, are well paid, and appear to be well satisfied with their positions. Salaries for major assessment work range from $2,800 to $6,100. No per diem men are employed in connection with appraisal work. The personal property division requires a staff of approximately thirty persons who are, on the average, less well paid than those in the real property division. Twelve men are continuously engaged in the assessment of land values and twelve in the appraisal of buildings and improvements.[1] Every man who enters the assessment field is encouraged to adopt a professional attitude toward his duties and is given every opportunity to become an expert in some phase of appraisal work. An illustration of the caliber of men that may be developed under this system is Mr. R. A. Horn, who has specialized in the field of site valuations, and who was called to Chicago in connection with the recent reassessment in that city as a special adviser to the Chicago Assessment Board.

One highly significant factor in the present equitable assessment of Cleveland has been Mr. Zangerle's insistence upon the

[1]The Ohio statute requires a separate assessment of sites and improvements.

importance of key values per front foot in connection with sites, and unit costs per cubic foot in connection with structures. No effort is spared in order to arrive at accurate key site values. Every available bit of relevant information such as sales considerations, mortgages recorded, rental contracts, expert appraisals, and information gleaned from questionnaires is carefully collected, analyzed, and, so far as possible, utilized. After key values have been established, the insertion of the intermediate front foot valuations becomes largely a matter of expert judgment and the continuous application of common sense. It is Mr. Zangerle's opinion that successful assessment must be a continuous process; that the assessor must be on the job every week in the year, constantly alert to note fluctuations in values and ever ready to make such revisions as are needed to reconcile his appraisals with market realities.

Intelligent and persistent publicity appears to have played an important role, too, in Mr. Zangerle's successful efforts to hold public confidence and secure active cooperation on the part of property owners. He emphasizes the fact that the front door to his office is never closed and that appraisals are never the outcome of secret conferences. He has popularized the slogan, "Not more taxes, but more equalization." Every taxpayer is given the opportunity to compare his assessment with those of his neighbors and is encouraged to express his opinion thereupon. Every map, record, and data sheet on file in the office is open to public inspection at any time. Prior to the general reassessment of 1924, over 120,000 land value maps were placed in homes and offices throughout the county, setting up tentative values, inviting comparisons and criticisms, and explaining in detail the technique which was to be used in arriving at assessed values. Community advisory boards were organized throughout the county. Serving without pay, the members of these boards gave valuable assistance in establishing key unit values and in molding public opinion in support of the program as adopted. Shortly after the completion of the 1924 assessment, a carefully prepared and attractively printed publication containing information relative thereto was issued for the primary purpose of further enlightening the Cuyahoga County taxpayers. This volume merits designation as a model of its kind. The first twenty-five pages are devoted to a detailed explanation

of the problems and technique of assessment, a statement of the membership and work of the community committees, and numerous illustrations of typical Cleveland buildings; the remaining sixty-three pages are used to present tax maps of the whole of Cuyahoga County. A copy of such a map is shown in the Appendix, Section F. Although the publication and distribution of this volume involved no small cost, the wisdom of such an expenditure is unquestioned.

In the building assessment department are files containing card records for every structure within the county. On each card is noted the actual original cost of the building, its depreciation record, and complete information relating to its construction, even to such a detail as the type of basement stairway. Expert construction engineers are employed to continually revise these building appraisals, both to keep them in line with current costs of construction and to make proper allowances for actual depreciation. The deputy in charge of building assessments is reputed to know more about building costs in Cleveland than any other one individual. Since 1916 the owner of new buildings costing more than $25,000 has been compelled to file an affidavit giving costs in detail; if there is any discrepancy apparent in this statement, an examination is made of the accounting records of the owner and the construction company.

The department of land assessment houses a file in which is found a record card for every parcel of real estate within the county. Each card shows the location, measurements, and area of the lot, the extent to which its value is influenced by corners and alleys, its assessment history, and also such relevant information as consideration in the case of past sales, mortgages, rental contracts, and the like. In Section F of the Appendix may be found reprints of a building card, a lot card, and a building cost affidavit.

The annual budget of the auditor's office for the performance of all functions connected therewith is approximately $300,000. Of this, not less than $25,000 is expended in the construction of assessment maps, keeping them to date, and distributing them to taxpayers. The office owns its own photostatic equipment for this purpose.

The task of keeping assessed values in line with market values has been particularly difficult in Cuyahoga County on account of changes in the entire level of property values and because of

rapid fluctuations in values as between different sections of the county. To illustrate, in the suburban district of Shaker Heights there has been an incredibly rapid increase in site values every year for the past twenty-five years. Furthermore, the tax burden in Cleveland has by no means been light, the present tax rate being 26.2 mills. This heavy burden has been accepted by the property owners of Cleveland with a minimum of complaint because of their confidence in its equitable apportionment.

Within the limits of Cuyahoga County there are approximately 385,000 parcels of real estate; in addition to the returns made by these owners, there are about 115,000 personal property returns made by individuals who own no real property. Out of this total of 500,000 taxpayers, usually in any year not more than 500 file formal complaints against their assessments. The Ohio law provides for a county board of revision consisting of the county auditor, the chairman of the board of county commissioners, and the county treasurer, to hear appeals from valuations as fixed by the county auditor. Mr. Zangerle gives personal attention to all appeals made in Cuyahoga County and the other members of the County Board of Revision are usually willing to accept his recommendations in such cases. About one-half of these formal appeals are disposed of in a manner favorable to the taxpayer.

As has been stated, effort is made to tap all sources of information relative to sales considerations in transfers of Cleveland realty. Unfortunately, however, the auditor's office has not tabulated and organized these data in such form as to make them adaptable to the type of statistical treatment that has been accorded similar data in this study. The reorganization of these data for this purpose would have cost so heavily in time and money as to make it impracticable. Hence it is not possible to compare the Cleveland assessment situation directly with assessment conditions in other cities.

No statistical demonstration of the high quality of assessment work being done in Cleveland is needed, however. This conclusion has been reached by so many competent observers as no longer to be in question. Prof. E. R. A. Seligman not long ago referred to Cleveland as the best assessed large city in the United States. A study of the assessment technique that is at present employed in Cleveland explains why such commendation is well deserved.

CHAPTER VIII

A MODEL SYSTEM OF ASSESSMENT ADMINISTRATION

The foregoing chapters indicate that in none of the states considered is there a system of assessment administration without serious shortcomings. Indeed, had the scope of this inquiry been extended to include all forty-eight states, it is improbable that any state would have merited recognition as a model in this respect. Although it is possible to point to Duluth and Cleveland as cities using model assessment technique, they contribute but little toward the solution of the problem of a model statewide system, since proper assessment technique is but one phase of the larger problem of assessment administration. This study will not have been fruitless, then, if it contributes toward the formulation of such a model system. With this in mind, it will be well to review briefly at this point the findings of previous chapters.

TABLE XXXIX

AVERAGE ASSESSMENT RATIOS AND PERCENTAGE DEVIATIONS, RURAL PROPERTY, STATE AVERAGES

Iowa (41 counties)	
Average assessment ratio (number basis)	48.02
Average assessment ratio (value basis)	46.62
Average percentage deviation (number basis)	19.16
Average percentage deviation (value basis)	18.44
Minnesota (6 counties)	
Average assessment ratio (number basis)	84.56
Average assessment ratio (value basis)	82.03
Average percentage deviation (number basis)	22.89
Average percentage deviation (value basis)	20.51
Nebraska (12 counties)	
Six counties having full time county assessors:	
Average assessment ratio (number basis)	56.16
Average assessment ratio (value basis)	48.23
Average percentage deviation (number basis)	29.88
Average percentage deviation (value basis)	24.44
Six counties not having full-time county assessors:	
Average assessment ratio (number basis)	61.09
Average assessment ratio (value basis)	56.56
Average percentage deviation (number basis)	23.42
Average percentage deviation (value basis)	21.84
Wisconsin (12 counties)	
Average assessment ratio (number basis)	92.43
Average assessment ratio (value basis)	89.71
Average percentage deviation (number basis)	16.35
Average percentage deviation (value basis)	15.08

TABLE XL

AVERAGE ASSESSMENT RATIOS AND PERCENTAGE DEVIATIONS, CITY AND VILLAGE PROPERTY—STATE AVERAGES

Indiana (12 cities and villages)
- Average assessment ratio (number basis) 76.26
- Average assessment ratio (value basis) 73.03
- Average percentage deviation (number basis) 31.95
- Average percentage deviation (value basis) 26.12

Iowa (8 cities)
- Average assessment ratio (number basis) 52.16
- Average assessment ratio (value basis) 47.53
- Average percentage deviation (number basis) 32.06
- Average percentage deviation (value basis) 25.66

(14 towns)
- Average assessment ratio (number basis) 50.29
- Average assessment ratio (value basis) 46.23
- Average percentage deviation (number basis) 32.73
- Average percentage deviation (value basis) 28.03

Minnesota (6 cities)
- Average assessment ratio (number basis) 83.22
- Average assessment ratio (value basis) 79.85
- Average percentage deviation (number basis) 25.97
- Average percentage deviation (value basis) 23.10

Nebraska (7 cities)

4 county assessor cities:
- Average assessment ratio (number basis) 53.57
- Average assessment ratio (value basis) 52.52
- Average percentage deviation (number basis) 28.43
- Average percentage deviation (value basis) 25.93

3 non-county assessor cities:
- Average assessment ratio (number basis) 40.23
- Average assessment ratio (value basis) 39.80
- Average percentage deviation (number basis) 25.81
- Average percentage deviation (value basis) 22.01

Wisconsin (3 cities)
- Average assessment ratio (number basis) 72.48
- Average assessment ratio (value basis) 67.37
- Average percentage deviation (number basis) 25.12
- Average percentage deviation (value basis) 17.31

(11 villages)
- Average assessment ratio (number basis) 83.05
- Average assessment ratio (value basis) 80.91
- Average percentage deviation (number basis) 18.91
- Average percentage deviation (value basis) 16.83

Tables XXXIX and XL and Charts XXIV and XXV have been prepared in order to assemble in summary form the statistical evidence as to assessment conditions within the five states herein investigated. The data thus presented serve to emphasize the statement made that no one of these states has as yet succeeded in arriving at an altogether satisfactory solution of the problem of assessment. Furthermore, with a knowledge of the assessment systems in these states as a background for the interpretation of these tables and charts, they assist in the formulation of a model system of assessment administration.

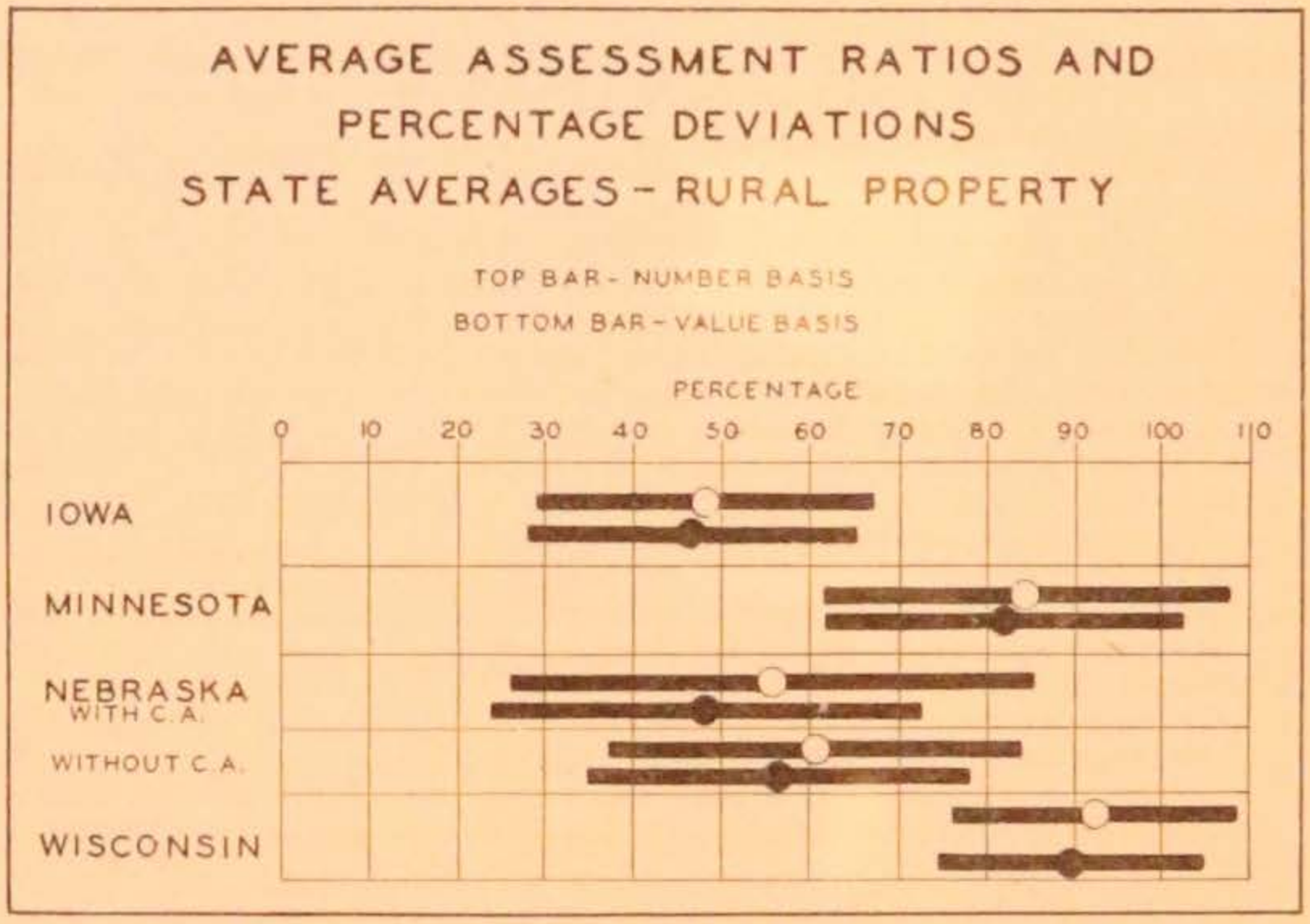

CHART XXIV

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

Iowa illustrates the evil consequences that result from extreme administrative decentralization. No feature of the Iowa system of administration, as it existed prior to 1929, appears worthy of commendation.

Wisconsin, on the whole the best assessed of these five states, owes that position primarily to the work of the Wisconsin Tax Commission, whose excellent performance has been made possible by its broad powers, its unhampered status, and its competent personnel. The Assessor of Income, actually a regional supervisor of assessment, appointed by and responsible to the Tax Commission, has been an important contributing factor, also. At present, the state's most serious handicap is its system of elected local assessors.

Minnesota, like Wisconsin, has profited much from the efforts of a capable, forward-looking tax commission, the members of which have had long tenure of office. But here again, locally elected assessors and *ex officio* boards of review constitute formidable obstacles to further progress.

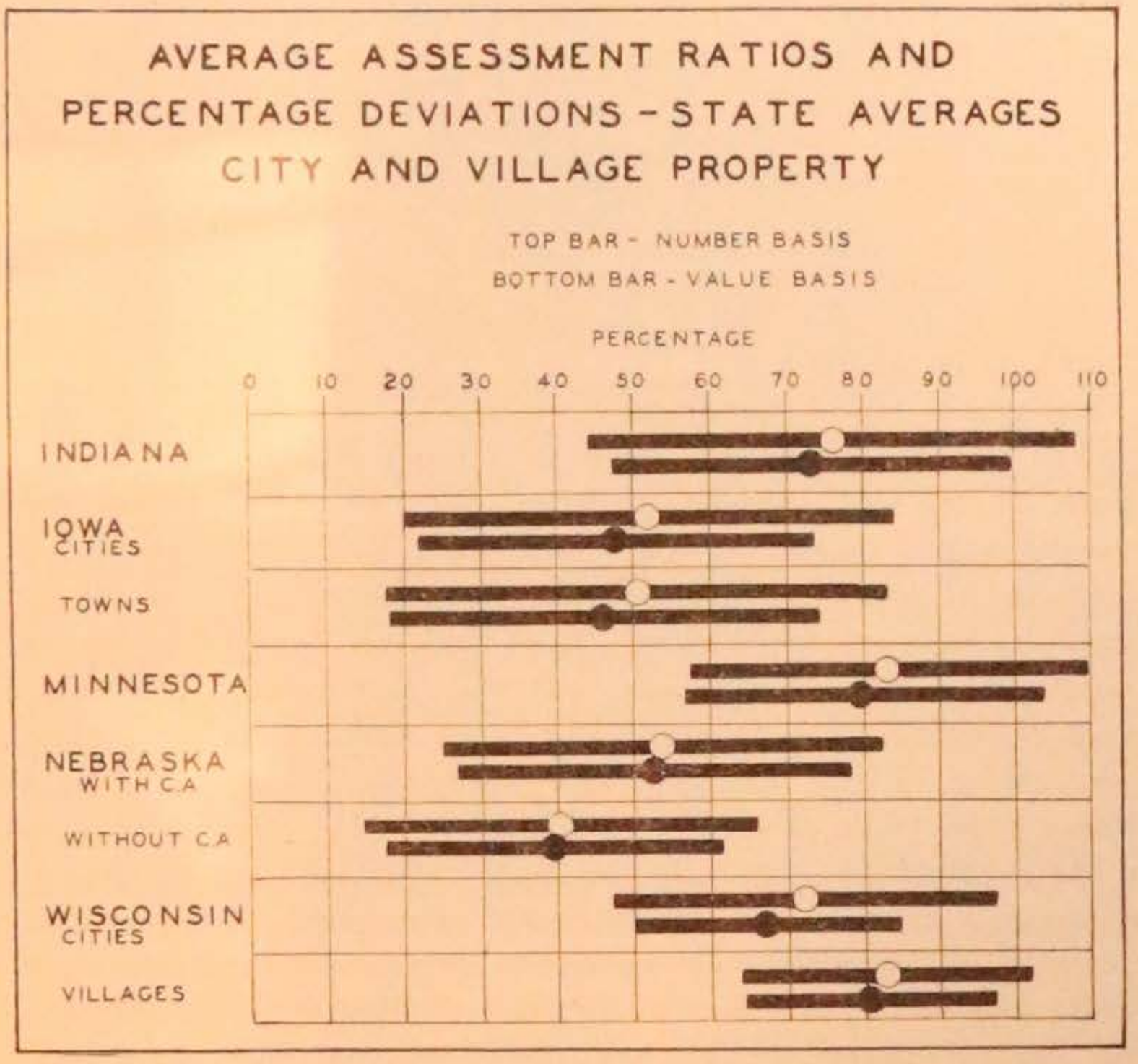

CHART XXV

The average assessment ratio (assessment level) is indicated by the open circle when the unit of calculation is the individual transfer, and by the solid black circle when the unit of calculation is a dollar's worth of property. The average percentage deviation, both above and below the assessment level, is represented by the length of the black bar on each side of the circle.

Nebraska shows that assessment ills are not to be remedied by multiplying elective assessment officials and by a merely nominal centralization of administration; also, that a legislature cannot expect its own patch-work to be transformed by some fiscal alchemy into whole cloth. It also demonstrates the uselessness of county assessors, whether elective or *ex officio*, whose only duties are to supervise local assessors.

Indiana manifests inequity in assessment, the major causes of which appear to be: first, the inadequate, incomplete, and problematical powers granted the Indiana Tax Commission, and the endless red tape with which it is bound; second, a multiplication of officials having supervisory powers with resultant divided and

uncertain responsibility; and, finally, the elected local assessor and *ex officio* board of review.

Duluth and Cleveland demonstrate that assessment work of superior quality may readily be performed if competent, skilled, and aggressive officials are placed in charge, if they are given long tenure of office, if they are kept free of political influences, if their appropriations are commensurate with the size and importance of the task, and if modernized and scientific assessment technique is adopted.

The quest for a satisfactory system of assessment administration is not new among students of fiscal affairs. The breakdown of the old general property tax, which began in the eastern states early in the nineteenth century, forced the problems of administration into the foreground, and there those problems have since remained. More time was devoted to papers concerned with, and discussion of, the improvement of assessment conditions than to any other single problem at the annual conventions of the National Tax Association during the first fifteen years of its existence, from 1907 to 1921. The seriousness of the problem was generally recognized and there was no dearth of suggestions as to possible measures of reform. However, the majority of the proposals advanced during those years were faulty and inadequate because of their particularistic character; the several parts of the assessment system were criticized separately, and the problem of administration was given only piece-meal consideration. There was failure to appreciate the need for revamping the entire system of administration, regarded as a unit; failure to realize that the introduction of partial and isolated reforms would give only partial relief. Yet the advocates of the State Tax Commission implied that any state establishing such a body would quickly attain the fiscal millennium, and the supporters of the county assessor were no more restrained in their claims.

From 1921 to the present time the National Tax Association has manifested less interest in the assessment problem. For this there appear to be two major causes. First, other and newer problems in state and local finance were increasing in number and importance, and it was both inevitable and proper that the Association should devote more of its time and attention to them. Second, many states had effected partial modifications of their

assessment systems and were content to rest for a time on their oars; in other states, the advocates of reform had wearied of a struggle in which there appeared to be no immediate prospects of success and had directed their efforts into other channels. Thus this wave of reform passed, leaving in its wake numerous, but generally partial and incomplete, revisions of state administrative systems. It soon became evident, however, that the job had been but half done; in consequence, the problem is again so pressing as to claim popular and legislative attention. This is evidenced by the fact that, of the reports submitted by special committees on taxation in ten or more states during the past two years, not one has failed to give serious consideration to the question of assessment reform.

Two reports submitted by special committees to the National Tax Association and accepted by that organization, the first in 1915 and the second in 1919, deal in an admirable manner with certain phases of the problem of assessment administration. The 1915 report was from the "Committee on Methods of Selecting Assessors." Its more important sections follow:

"The first plan considered provides that each county shall constitute an assessment district; that all assessors shall be appointed by the tax commission or some other body having similar powers and functions; that they shall be selected from a civil service list for an indefinite term and be removable only for cause; that they shall devote all of their time to the duties of their office. This plan further provides that the appointing body shall have power, and it is made its duty, to determine the county in which each appointee shall serve, without regard to his place of residence, and to change any assessor from one county to another whenever in its judgment the change will increase his efficiency, improve the service, or be for the public good. It is provided in this plan that whenever for any cause an assessor is unable without assistance to assess all of the property in his county he shall have power in accordance with certain carefully defined regulations and within certain definite limitations, to appoint a sufficient number of deputies and assistants to insure a full listing and accurate valuing of all property in the county. All appointments made by the assessor under this plan are to be selected from a civil service list. The appointees are removable by him at will and neither the assessor nor any of his deputies or assistants are to take any active part in party politics.

". . . . the assessor's compensation should of course be sufficiently large to make the position an attractive one and to insure the service of fully competent men.

. . . . . .

"In states where the township assessor system still prevails the change to the county system would substitute for the army of underpaid and

poorly equipped local assessors a single assessor in each county. Instead of having a large number of independent and antagonistic assessors in a single county each struggling to keep the assessment of his town a little lower than the other towns of the county we would have one man and one mind applying the same rule of measurement to all property of the same general characteristics in all of the towns of the county. An assessor so elected and devoting not merely a few weeks but his entire time to the work of his office could familiarize himself with the character, quantity, quality, and value of all real and personal property in the county. He could chase to its hiding place and put upon the assessment rolls a large amount of intangible property which the town assessor for lack of time is unable to find. Every tract, parcel and lot of real estate in the county with the structures and improvements thereon could be thoroughly examined and accurately described, mapped, platted, and even photographed. The various uses it had been put to and the prices for which it had been sold could be looked up and the information tabulated and put in shape for convenient reference. With this data frequently confirmed and brought down to date there is no reason why the value of every tract and lot of land in the county could not be so accurately estimated by a fairly competent man that it would be perfectly safe to purchase it on the strength of the record in the assessor's office without seeing the property or making any further investigation."

The 1919 report has subsequently become famous as the "Plan of a Model System of State and Local Taxation." Its section on tax administration reads, in part as follows:

"Assessment districts should be large enough to justify the employment of at least one permanent official in each such district, who should receive a salary sufficient to make it possible for him to give all his time to the work. Such permanent assessors should be provided with well equipped offices, a suitable number of permanent clerks, and such part-time assistants as may be needed for a short period in each year. Even if assessments are not made annually, there is always enough work of investigation and of keeping track of new developments to justify the employment of a permanent force. At present many assessment districts are too small to make proper compensation possible; and the result is that the work is done by persons who cannot give to it the time it ought to receive and seldom acquire the necessary expert and technical knowledge. Manifestly, the county is a better assessment district than the township; and, generally speaking, we may suggest that it is undesirable to erect assessment districts smaller than a county, unless such districts have a sufficient population to enable them to employ at least one permanent assessor and a suitable staff.

. . . . . .

"We recommend that all assessors, whether elected or appointed, be subject to removal for wilful negligence or malfeasance in office. This power of removal should be placed in the hands of the state tax com-

mission, which should be authorized, either upon complaint or upon its own motion, and after hearing all parties in interest, to remove a local assessor from office. This power is now given to the tax commission in certain states, and has led to excellent results. Even though seldom exercised, the very existence of such a power tends to prevent many abuses and to secure a more efficient administration of tax laws.

"That a permanent state tax commission, or tax commissioner, should be established in every state, is a recommendation which today requires no argument to support it. We will merely say that neither the system of taxation which we recommend nor any other can be expected to give satisfactory results in states that refuse to place in the hands of some permanent central authority the administration of taxes upon incomes and inheritances, the original assessment of certain classes of property, and general supervisory powers over the assessment of all property subject to local taxation.

"How this central authority should be constituted is naturally the next subject for consideration. We believe that experience has abundantly proved that a state board constituted of ex-officio members is totally inadequate for the work in hand. The members of such a board have other duties and responsibilities which have first claim upon their interest and time, so that they never become experts in taxation and seldom give adequate attention to their work as members of a tax commission. In states which are content to vest in ex-officio boards central control over the administration of their tax laws, we cannot expect satisfactory results from our proposed system of taxation, or, indeed, from any other.

. . . . . .

"Where the commission exists, the members should be appointed, in classes, for terms of at least six years. Provision should be made that all the members of the commission should not belong to the same political party, and every effort should be made to remove their appointment from politics. The salaries paid should be adequate to secure men of first-class ability, and removal from office should be authorized only for cause and after due hearing of all parties in interest.

"The powers of the tax commission should include: (a) original assessment of all property or business that has a state-wide rather than a local character, all financial institutions, and public utility companies of every description; (b) the assessment of the personal income tax and the tax on business incomes which we have here recommended, also the administration of inheritance taxes and any other state transfer taxes; (c) the equalization of property assessments for the purposes of state taxation and the equalization of county assessments whenever there are different assessment districts within a county; (d) directive and supervisory power over the assessment of property, including the power to order reassessments and, if necessary, to appoint appraisers to reassess any property that local officials have not assessed in accordance with the law; (e) power of removal, after a hearing, of local assessors for inefficiency or misconduct; (f) authority to act as board of appeal in such cases as may be necessary; and (g) authority to investigate the entire subject of taxation, and to

gather and publish comprehensive statistics concerning all matters of taxation and public finance."

Although submitted over a decade ago, these recommendations constitute an adequate, concise statement of the ideal administrative status of the state tax commission and the assessment official of original jurisdiction.[1] Unfortunately, no state has yet adopted the plan in entirety, either in letter or in spirit. The causes of this delay are many, though among them are legislative inertia; distrust and suspicion of any change in governmental machinery; the mistaken, but still wide-spread, belief in the virtues of elective officials and local self-government; and the inevitable time lag between economic changes and governmental modifications appropriate thereto.

With these recommendations of the National Tax Association the authors are entirely in agreement. The results, statistical and otherwise, of this investigation give support to the insistence of fiscal students that state assessment systems be revamped in accordance with these specifications. However, although a proper tax commission and the county assessor with his staff are unquestionably the major constituent parts of a model assessment system, they do not comprise the whole of such a system. Two minor elements—the county board of review and the field representative of the tax commission—cannot be left out of account.

If an assessment has been properly made in the first instance, there would exist no need for the services of a reviewing board; on the other hand, if the original assessment is inequitable, experience indicates that no amount of work by a board of review, no matter how constituted, will place it upon an equitable basis. Nevertheless, it is doubtless politically inexpedient and useless to urge at this time the elimination of all boards of review. It is assumed, of course, that the township and city boards of review will disappear with the elimination of the township assessor. A county board of review would satisfy the popular demand for some measure of local control over assessment and would constitute an immediate safeguard against genuinely arbitrary or autocratic action on the part of the assessor; further, it should be able to rectify occasional chance errors in the original assess-

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[1]A complete and comprehensive treatment of the history, powers, duties, and functions of state tax commissions is available in The State Tax Commission, by Lutz, H. L.

ment rolls. For the sake of simplicity and out of deference to the present wide-spread demand for local control, the county board of review may well be an *ex officio* body. It is highly desirable that the county assessor be a member of the board. The county board of supervisors might constitute its remaining personnel, although other county officials would probably serve no less effectively. It should be possible to take appeals from the rulings of the county board of review directly and with a minimum of difficulty to the state tax commission.

It is imperative that the state tax commission keep in close touch at all times with assessment work and conditions in every county of the state, yet it is obviously impossible to accomplish this through the personal visitations of its members. Doubtless they should make such personal investigations occasionally but their time must be given to work at the central office if they are to deal adequately with the larger problems of administration. Therefore, that the commission may secure the desired local contacts and information, it is necessary for it to have a corps of field representatives. A sufficient number of these field men should be employed to insure abundant data and complete information. These positions should be made subject to civil service regulations, appointees serving for an indefinite term and subject to dismissal only for cause by the tax commission. Indeed, such field representatives might well be recruited largely from among the county assessors who have demonstrated special aptitude and ability. They should be the direct representatives of, and responsible only to, the tax commission, exercising as broad power as the commission desires to delegate to them. Their remuneration should be adequate to enable the position to attract and retain the services of thoroughly competent men. Equity in assessment will become the rule and not the exception only when assessment is changed from the status of an amateur sport to that of a profession; hence every assessment official should be a specialist, skilled in his field and proud of his profession.

The model assessment system, then, consists of these four parts: the state tax commission, its field representatives, the county assessor and his deputies, and the county board of review. No one of these divisions may be eliminated and the inclusion of further officials seems to be both unnecessary and damaging in its effects. These four groups of officials, under proper legisla-

tion, will constitute a thoroughly coordinated and integrated system of administration in which unbroken lines of authority converge in the state tax commission. Upon the state tax commission should rest responsibility for the successful operation of the system and its authority should be commensurate with this responsibility.

It is unlikely that all states will think it desirable to adopt this system of assessment administration without modifications calculated to meet special local situations. However, in the light of the unfortunate experiences and present needs of Iowa and other mid-western states, it seems that modifications should be few and minor. It is to be emphasized, too, that little benefit can be expected to follow the introduction of individual, isolated features of such a system. Its adoption in entirety, however, should go far towards remedying conditions of mal-assessment that are not only so widespread but also so gross as to occasion increasing public condemnation.

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APPENDIX

Section A--Iowa Tables

TABLE 1

BOONE, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	2	2.326	100.000	$ 1,300	.669
.. — ..					
26— 30	5	5.814	97.674	36,450	18.752
31— 35	9	10.465	91.860	25,625	13.183
36— 40	9	10.465	81.395	26,400	13.581
41— 45	7	8.140	70.930	18,040	9.281
46— 50	14	16.279	62.790	23,875	12.282
51— 55	6	6.977	46.511	20,350	10.468
56— 60	3	3.488	39.534	8,040	4.136
61— 65	3	3.488	36.046	5,750	2.958
66— 70	12	13.953	32.558	13,386	6.886
71— 75	3	3.488	18.605	5,335	2.745
76— 80	3	3.488	15.117	3,400	1.749
81— 85	1	1.163	11.629	600	.309
86— 90	1	1.163	10.466	1,033	.531
.. — ..					
96— 100	3	3.488	9.303	2,825	1.453
... — ...					
116— 120	2	2.326	5.815	700	.360
... — ...					
146— 150	1	1.163	3.489	750	.386
... — ...					
176— 180	1	1.163	2.326	450	.232
... — ...					
211— 215	1	1.163	1.163	75	.039
Totals	86	100.000		$ 194,384	100.000

Total sale value	$194,384
Total assessed value	90,197
Average assessment ratio on number basis	57.88
Average assessment ratio on value basis	46.27
Percentage deviation on number basis	36.32
Percentage deviation on value basis	29.35

TABLE 2

CEDAR RAPIDS, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	1.887	100.000	$ 4,900	1.084
21— 25					
26— 30	4	7.547	98.113	31,300	6.924
31— 35	4	7.547	90.566	147,125	32.548
36— 40	3	5.660	83.019	12,375	2.738
41— 45	5	9.434	77.359	42,700	9.447
46— 50	10	18.868	67.925	67,550	14.944
51— 55	3	5.660	49.057	11,280	2.495
56— 60	9	16.981	43.397	90,790	20.085
61— 65	5	9.434	26.416	22,642	5.009
66— 70	4	7.547	16.982	8,050	1.781
71— 75	1	1.887	9.435	3,800	.841
76— 80	2	3.774	7.548	6,450	1.427
81— 85					
86— 90	1	1.887	3.774	1,600	.354
91— 95					
96— 100	1	1.887	1.887	1,460	.323
Totals	53	100.000		$ 452,022	100.000

Total sale value	$452,022
Total assessed value	205,216
Average assessment ratio on number basis	51.96
Average assessment ratio on value basis	44.84
Percentage deviation on number basis	24.11
Percentage deviation on value basis	25.31

TABLE 3

COUNCIL BLUFFS, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	2	.391	100.000	$ 5,350	.356
11— 15	16	3.125	99.609	21,478	1.429
16— 20	24	4.688	96.484	27,450	1.827
21— 25	40	7.812	91.796	117,615	7.827
26— 30	64	12.500	83.984	201,356	13.400
31— 35	92	17.968	71.484	318,735	21.212
36— 40	72	14.062	53.516	234,154	15.583
41— 46	76	14.843	39.454	214,028	14.244
46— 50	39	7.617	24.611	139,824	9.305
51— 55	21	4.102	16.994	109,863	7.312
56— 60	18	3.516	12.892	35,548	2.366
61— 65	18	3.516	9.376	18,589	1.237
66— 70	10	1.953	5.860	26,825	1.785
71— 75	5	.977	3.907	13,220	.880
76— 80	3	.586	2.930	3,178	.211
81— 85	3	.586	2.344	5,000	.333
86— 90	2	.391	1.758	1,950	.130
91— 95	3	.586	1.367	1,580	.105
96— 100	1	.195	.781	1,183	.079
101— 105	3	.586	.586	5,700	.379
Totals	512	100.000		$ 1,502,626	100.000

Total sale value	$1,502,626
Total assessed value	577,586
Average assessment ratio on number basis	38.99
Average assessment ratio on value basis	38.61
Percentage deviation on number basis	29.52
Percentage deviation on value basis	24.76

TABLE 4

DES MOINES, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
1— 5	1	.265	100.000	$ 5,500	.412
6— 10	3	.794	99.735	16,875	1.265
11— 15	3	.794	98.941	10,800	.810
16— 20	3	.794	98.147	2,500	.187
21— 25	5	1.323	97.353	15,910	1.193
26— 30	18	4.762	96.030	67,022	5.025
31— 35	18	4.762	91.268	70,085	5.254
36— 40	46	12.169	86.506	199,970	14.992
41— 45	42	11.111	74.337	143,959	10.792
46— 50	41	10.847	63.226	143,605	10.766
51— 55	29	7.672	52.379	127,106	9.529
56— 60	27	7.143	44.707	75,425	5.655
61— 65	31	8.201	37.564	103,864	7.787
66— 70	13	3.439	29.363	71,050	5.327
71— 75	20	5.291	25.924	44,435	3.331
76— 80	17	4.497	20.633	42,104	3.156
81— 85	8	2.116	16.136	33,675	2.525
86— 90	4	1.058	14.020	10,350	.776
91— 95	10	2.646	12.962	19,050	1.428
96— 100	10	2.645	10.316	25,500	1.911
101— 105	2	.529	7.671	64,000	4.798
106— 110	5	1.322	7.142	12,200	.815
111— 115	4	1.058	5.820	5,350	.401
116— 120	4	1.058	4.762	4,913	.368
121— 125	3	.793	3.704	6,780	.508
126— 130	3	.793	2.911	4,450	.334
131— 135	2	.529	2.118	900	.067
136— 140	1	.265	1.589	500	.037
141— 145	1	.265	1.324	2,450	.183
146— 150	2	.529	1.059	1,200	.090
...— ...					
161— 165	1	.265	.530	1,550	.116
...— ...					
196— 200	1	.265	.265	800	.060
Totals	378	100.000		$ 1,333,878	100.000

Total sale value	$1,333,878
Total assessed value	732,675
Average assessment ratio on number basis	58.56
Average assessment ratio on value basis	55.62
Percentage deviation on number basis	34.89
Percentage deviation on value basis	33.35

TABLE 5

DES MOINES, RESIDENCE PROPERTY
1929 EXPERT APPRAISAL

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	2	1.316	100.000	$ 9,800	1.165
16— 20	2	1.316	98.684	6,200	.737
21— 25	5	3.289	97.368	19,080	2.269
26— 30	2	1.316	94.079	5,500	.654
31— 35	12	7.895	92.763	49,945	5.938
36— 40	17	11.184	84.868	76,569	9.104
41— 45	22	14.473	73.684	112,681	13.397
46— 50	13	8.552	59.211	86,630	10.300
51— 55	12	7.895	50.659	85,720	10.192
56— 60	11	7.237	42.764	66,674	7.927
61— 65	9	5.921	35.527	60,094	7.145
66— 70	10	6.579	29.606	58,475	6.952
71— 75	8	5.263	23.027	48,397	5.754
76— 80	7	4.605	17.764	52,780	6.275
81— 85	8	5.263	13.159	44,120	5.245
86— 90	3	1.974	7.896	15,050	1.789
91— 95	2	1.316	5.922	9,950	1.183
96— 100	3	1.974	4.606	24,625	2.928
101— 105	1	.658	2.632	2,882	.343
...— ...					
116— 120	1	.658	1.974	2,511	.299
...— ...					
166— 170	1	.658	1.316	900	.107
171— 175	1	.658	.658	2,500	.297
Totals	152	100.000		$ 841,083	100.000

Total sale value	$841,083
Total assessed value	479,660
Average assessment ratio on number basis	55.70
Average assessment ratio on value basis	56.73
Percentage deviation on number basis	32.24
Percentage deviation on value basis	28.15

TABLE 6

DES MOINES, BUSINESS PROPERTY

1929 EXPERT REASSESSMENT

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	2	.278	100.000	$ 1,124	.002
16— 20	4	.556	99.722	12,761	.023
21— 25	4	.556	99.166	9,974	.018
26— 30	3	.417	98.610	48,366	.089
31— 35	12	1.667	98.193	1,202,588	2.200
36— 40	21	2.917	96.526	3,852,494	7.048
41— 45	28	3.889	93.609	7,521,684	13.762
46— 50	32	4.444	89.720	2,734,212	5.003
51— 55	41	5.694	85.276	7,848,939	14.360
56— 60	61	8.472	79.582	6,013,119	11.002
61— 65	72	10.000	71.110	6,672,561	12.208
66— 70	79	10.972	61.110	3,987,590	7.296
71— 75	59	8.194	50.138	3,482,754	6.372
76— 80	61	8.472	41.944	3,003,633	5.495
81— 85	34	4.722	33.472	1,721,073	3.149
86— 90	34	4.722	28.750	1,429,534	2.615
91— 95	32	4.444	24.028	648,729	1.187
96— 100	31	4.306	19.584	1,795,287	3.285
101— 105	24	3.333	15.278	944,091	1.727
106— 110	18	2.500	11.945	411,033	.752
111— 115	18	2.500	9.445	297,339	.544
116— 120	8	1.111	6.945	124,040	.227
121— 125	8	1.111	5.834	124,794	.228
126— 130	4	.556	4.723	55,706	.102
131— 135	8	1.111	4.167	64,072	.117
136— 140	6	.833	3.056	114,814	.210
141— 145	2	.278	2.223	53,579	.098
146— 150	1	.139	1.945	1,568	.003
...— ...					
161— 165	3	.417	1.806	123,421	.226
166— 170	5	.694	1.389	86,167	.158
...— ...					
181— 185	1	.139	.695	1,985	.004
186— 190	1	.139	.556	95,220	.174
...— ...					
201— 205	1	.139	.417	7,372	.013
...— ...					
226— 230	1	.139	.278	165,830	.303
...— ...					
286— 290	1	.139	.139	210	
Totals	720	100.000		$54,657,663	100.000

Total appraised value	$54,657,663
Total 1927 assessed value	34,290,142
Average assessment ratio on number basis	75.49
Average assessment ratio on value basis	62.74
Percentage deviation on number basis	27.31
Percentage deviation on value basis	24.93

TABLE 7

FORT DODGE, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	1	.918	100.000	$ 5,100	.662
.. — ..					
16— 20	2	1.835	99.082	3,650	.474
21— 25	7	6.422	97.247	37,125	4.821
26— 30	6	5.505	90.825	12,860	1.670
31— 35	9	8.257	85.320	28,100	3.649
36— 40	13	11.927	77.063	272,710	35.416
41— 45	13	11.927	65.136	50,585	6.569
46— 50	17	15.597	53.209	198,004	25.714
51— 55	5	4.587	37.612	19,250	2.500
56— 60	11	10.092	33.025	25,030	3.251
61— 65	5	4.587	22.933	47,750	6.201
66— 70	5	4.587	18.346	8,725	1.133
71— 75	2	1.835	13.759	20,700	2.688
76— 80	3	2.752	11.924	24,225	3.146
81— 85	1	.917	9.172	5,300	.688
86— 90	3	2.752	8.255	3,100	.403
91— 95	1	.917	5.503	1,250	.163
96— 100	1	.917	4.586	1,100	.143
... — ...					
111— 115	1	.917	3.669	700	.091
116— 120	2	1.835	2.752	2,250	.292
121— 125	1	.917	.917	2,510	.326
Totals	109	100.000		$ 770,024	100.000

Total sale value	$770,024
Total assessed value	356,820
Average assessment ratio on number basis	50.34
Average assessment ratio on value basis	45.91
Percentage deviation on number basis	32.22
Percentage deviation on value basis	22.87

TABLE 8

MARSHALLTOWN, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	2.857	100.000	$ 3,000	1.074
26— 30	3	8.572	97.143	14,500	5.190
31— 35	2	5.714	88.571	3,850	1.378
36— 40	3	8.572	82.857	19,450	6.962
41— 45	9	25.714	74.285	184,197	65.932
46— 50	1	2.857	48.571	4,500	1.611
51— 55	3	8.571	45.714	8,500	3.042
56— 60	4	11.429	37.143	8,700	3.114
.. — ..					
66— 70	3	8.571	25.714	10,425	3.732
71— 75	4	11.429	17.143	19,500	6.980
.. — ..					
81— 85	1	2.857	5.714	1,200	.430
.. — ..					
91— 95	1	2.857	2.857	1,550	.555
Totals	35	100.000		$ 279,372	100.000

Total sale value	$279,372
Total assessed value	127,312
Average assessment ratio on number basis	51.00
Average assessment ratio on value basis	45.85
Percentage deviation on number basis	27.67
Percentage deviation on value basis	16.47

TABLE 9

MASON CITY, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	1.562	100.000	$ 8,000	5.254
16— 20	1	1.563	98.438	800	.526
21— 25	3	4.688	96.875	7,500	4.926
26— 30	2	3.125	92.187	750	.493
31— 35	8	12.500	89.062	24,540	16.118
36— 40	11	17.188	76.562	24,575	16.141
41— 45	11	17.188	59.374	29,221	19.192
46— 50	6	9.375	42.186	32,350	21.248
51— 55	6	9.375	32.811	8,304	5.454
56— 60	2	3.125	23.436	4,000	2.627
61— 65	1	1.563	20.311	425	.279
66— 70	4	6.250	18.748	2,885	1.895
71— 75	1	1.562	12.498	4,000	2.627
.. — ...					
96— 100	1	1.562	10.936	900	.591
... — ...					
106— 110	4	6.250	9.374	2,904	1.907
... — ...					
131— 135	1	1.562	3.124	600	.394
... — ...					
161— 165	1	1.562	1.562	500	.328
Totals	64	100.000		$ 152,254	100.000

Total sale value	$152,254
Total assessed value	66,110
Average assessment ratio on number basis	51.05
Average assessment ratio on value basis	43.45
Percentage deviation on number basis	36.49
Percentage deviation on value basis	25.16

TABLE 10

SIOUX CITY, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	2	1.099	100.000	$ 1,525	.228
11— 15	3	1.648	98.901	1,500	.224
16— 20	4	2.198	97.253	17,420	2.603
21— 25	5	2.747	95.055	8,507	1.271
26— 30	7	3.846	92.308	10,550	1.577
31— 35	10	5.495	88.462	27,325	4.083
36— 40	21	11.539	82.967	67,327	10.062
41— 45	15	8.242	71.428	48,825	7.296
46— 50	15	8.242	63.186	65,600	9.803
51— 55	14	7.692	54.944	31,519	4.710
56— 60	18	9.890	47.252	52,362	7.825
61— 65	9	4.945	37.362	25,125	3.755
66— 70	15	8.242	32.417	179,750	26.862
71— 75	6	3.297	24.175	12,316	1.841
76— 80	6	3.297	20.878	5,500	.822
81— 85	6	3.297	17.581	45,843	6.851
86— 90	3	1.648	14.284	9,230	1.379
91— 95	7	3.846	12.636	27,023	4.038
96— 100	5	2.747	8.790	18,914	2.827
101— 105	2	1.099	6.043	2,000	.299
...— ...					
111— 115	5	2.747	4.944	8,150	1.218
116— 120	1	.549	2.197	100	.015
...— ...					
131— 135	1	.549	1.648	500	.075
...— ...					
161— 165	2	1.099	1.099	2,250	.336
Totals	182	100.000		$ 669,161	100.000

Total sale value	$669,161
Total assessed value	400,496
Average assessment ratio on number basis	57.48
Average assessment ratio on value basis	59.69
Percentage deviation on number basis	35.26
Percentage deviation on value basis	27.99

TABLE 11

ALBIA, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	3.125	100.000	$ 1,500	2.179
.. — ..					
21— 25	1	3.125	96.875	1,000	1.453
26— 30	1	3.125	93.750	4,500	6.538
31— 35	3	9.375	90.625	17,700	25.715
36— 40	5	15.625	81.250	9,800	14.238
41— 45	2	6.250	65.625	1,400	2.034
46— 50	3	9.375	59.375	14,600	21.212
51— 55	1	3.125	50.000	1,550	2.252
56— 60	3	9.375	46.875	5,000	7.264
61— 65	2	6.250	37.500	3,600	5.230
66— 70	1	3.125	31.250	450	.654
71— 75	5	15.625	28.125	2,950	4.286
76— 80	2	6.250	12.500	3,080	4.475
81— 85	1	3.125	6.250	1,000	1.453
.. — ..					
91— 95	1	3.125	3.125	700	1.017
Totals	32	100.000		$ 68,830	100.000

Total sale value	$68,830
Total assessed value	31,436
Average assessment ratio on number basis	53.16
Average assessment ratio on value basis	45.32
Percentage deviation on number basis	31.47
Percentage deviation on value basis	28.33

TABLE 12

ALGONA, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	3	10.345	100.000	$ 2,350	2.209
21— 25	1	3.448	89.655	1,900	1.787
26— 30	1	3.448	86.207	2,275	2.139
31— 35	2	6.897	82.759	7,950	7.474
36— 40	5	17.241	75.862	16,450	15.465
41— 45	2	6.897	58.621	7,812	7.344
46— 50	6	20.689	51.724	17,800	16.734
51— 55	2	6.897	31.035	3,165	2.976
56— 60	2	6.897	24.138	25,500	23.973
...— ...					
66— 70	1	3.448	17.241	8,000	7.520
71— 75	2	6.897	13.793	4,500	4.231
76— 80	1	3.448	6.896	7,000	6.581
...— ...					
131— 135	1	3.448	3.448	1,667	1.567
Totals	29	100.000		$ 106,369	100.000

Total sale value	$106,369
Total assessed value	55,072
Average assessment ratio on number basis	47.66
Average assessment ratio on value basis	51.84
Percentage deviation on number basis	31.85
Percentage deviation on value basis	25.52

TABLE 13

AMES, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	2	4.545	100.000	$16,075	8.811
16— 20	1	2.272	95.455	1,200	.658
..— ..					
26— 30	8	18.182	93.183	57,850	31.709
31— 35	4	9.091	75.001	12,700	6.961
36— 40	7	15.909	65.910	20,345	11.152
41— 45	4	9.091	50.001	15,193	8.328
46— 50	8	18.182	40.910	31,850	17.458
51— 55	3	6.818	22.728	13,350	7.318
56— 60	1	2.273	15.910	700	.384
61— 65	1	2.273	16.637	3,900	2.138
66— 70	1	2.273	11.364	3,775	2.069
71— 75	1	2.273	9.091	3,099	1.699
..— ..					
86— 90	1	2.273	6.818	1,000	.548
...— ...					
111— 115	2	4.545	4.545	1,400	.767
Totals	44	100.000		$ 182,437	100.000

Total sale value	$182,437
Total assessed value	70,140
Average assessment ratio on number basis	44.48
Average assessment ratio on value basis	38.08
Percentage deviation on number basis	32.53
Percentage deviation on value basis	30.99

TABLE 14

CARROLL, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	2	6.250	100.000	$ 9,200	5.740
16— 20	2	6.250	93.750	8,500	5.303
21— 25	1	3.125	87.500	6,250	3.900
26— 30	5	15.625	84.375	32,600	20.340
31— 35	2	6.250	68.750	4,000	2.495
36— 40	5	15.625	62.500	29,300	18.281
41— 45	1	3.125	46.875	1,900	1.185
46— 50	1	3.125	43.750	5,333	3.327
51— 55	5	15.625	40.625	51,100	31.883
56— 60	3	9.375	25.000	7,217	4.503
61— 65	2	6.250	15.625	3,420	2.134
66— 70	1	3.125	9.375	606	.378
.. — ..					
76— 80	1	3.125	6.250	150	.094
.. — ...					
96— 100	1	3.125	3.125	700	.437
Totals	32	100.000		$ 160,276	100.000

Total sale value	$160,276
Total assessed value	64,078
Average assessment ratio on number basis	43.16
Average assessment ratio on value basis	39.78
Percentage deviation on number basis	36.61
Percentage deviation on value basis	31.37

TABLE 15

DENISON, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	2	5.715	100.000	$ 7,000	5.994
31— 35	3	8.571	94.285	13,650	11.689
36— 40	3	8.571	85.714	17,200	14.729
41— 45	5	14.286	77.143	17,530	15.011
46— 50	5	14.286	62.857	11,600	9.933
51— 55	5	14.286	48.571	15,700	13.444
56— 60	8	22.857	34.285	21,300	18.240
61— 65	1	2.857	11.428	3,800	3.254
.. — ..					
86— 90	1	2.857	8.571	7,000	5.994
.. — ...					
96— 100	1	2.857	5.714	1,000	.856
... — ...					
106— 110	1	2.857	2.857	1,000	.856
Totals	35	100.000		$ 116,780	100.000

Total sale value	$116,780
Total assessed value	57,310
Average assessment ratio on number basis	51.71
Average assessment ratio on value basis	49.15
Percentage deviation on number basis	22.86
Percentage deviation on value basis	23.74

TABLE 16

EAGLE GROVE, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	2.564	100.000	$ 5,000	4.029
..— ..					
21— 25	2	5.128	97.436	2,300	1.853
26— 30	3	7.692	92.308	10,500	8.460
31— 35	4	10.257	84.616	10,900	8.783
36— 40	4	10.257	74.359	30,800	24.817
41— 45	4	10.257	64.102	19,300	15.551
46— 50	2	5.128	53.845	5,250	4.230
51— 55	3	7.692	48.717	12,350	9.951
56— 60	3	7.692	41.025	14,900	12.005
..— ..					
66— 70	2	5.128	33.333	2,100	1.692
71— 75	1	2.564	28.205	2,450	1.974
76— 80	1	2.564	25.641	2,500	2.014
81— 85	2	5.128	23.077	2,200	1.773
86— 90	1	2.564	17.949	60	.048
...— ...					
101— 105	4	10.257	15.385	2,135	1.720
...— ...					
111— 115	1	2.564	5.128	1,100	.886
...— ...					
121— 125	1	2.564	2.564	265	.214
Totals	39	100.000		$ 124,110	100.000

Total sale value	$124,110
Total assessed value	56,512
Average assessment ratio on number basis	56.85
Average assessment ratio on value basis	45.31
Percentage deviation on number basis	40.91
Percentage deviation on value basis	28.40

TABLE 17

ELDORA, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	4	11.429	100.000	$15,300	13.724
26— 30	4	11.429	88.571	18,000	16.146
31— 35	6	17.143	77.142	33,064	29.658
36— 40	3	8.571	59.999	7,350	6.593
41— 45	5	14.286	51.428	10,007	8.976
46— 50	2	5.714	37.142	3,000	2.691
51— 55	2	5.714	31.428	3,510	3.149
56— 60	2	5.714	25.714	3,500	3.140
61— 65	4	11.429	20.000	10,200	9.150
.. — ..					
71— 75	1	2.857	8.571	4,700	4.216
76— 80	1	2.857	5.714	1,500	1.346
.. — ..					
91— 95	1	2.857	2.857	1,350	1.211
Totals	35	100.00		$ 111,481	100.000

Total sale value	$111,481
Total assessed value	44,510
Average assessment ratio on number basis	44.14
Average assessment ratio on value basis	39.63
Percentage deviation on number basis	31.08
Percentage deviation on value basis	31.47

TABLE 18

ESTHERVILLE, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	3.125	100.000	$ 2,000	1.458
36— 40	2	6.250	96.875	4,600	3.352
41— 45	11	34.375	90.625	55,375	40.354
46— 50	3	9.375	56.250	14,745	10.746
51— 55	4	12.500	46.875	15,300	11.150
56— 60	2	6.250	34.375	3,200	2.332
61— 65	1	3.125	28.125	2,800	2.041
66— 70	1	3.125	25.000	5,000	3.643
71— 75	1	3.125	21.875	600	.437
76— 80	3	9.375	18.750	28,500	20.770
86— 90	1	3.125	9.375	1,000	.729
91— 95	1	3.125	6.250	3,100	2.259
106— 110	1	3.125	3.125	1,000	.729
Totals	32	100.000		$ 137,220	100.000

Total sale value	$137,220
Total assessed value	76,524
Average assessment ratio on number basis	55.50
Average assessment ratio on value basis	55.27
Percentage deviation on number basis	26.18
Percentage deviation on value basis	25.19

TABLE 19

HARLAN, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	2.778	100.000	$ 1,400	1.214
16— 20	1	2.778	97.222	400	.347
.. — ..					
31— 35	4	11.111	94.444	20,958	18.185
36— 40	2	5.555	83.333	10,950	9.501
41— 45	2	5.555	77.778	1,982	1.720
46— 50	6	16.667	72.223	34,200	29.674
51— 55	5	13.889	55.556	14,995	13.011
56— 60	4	11.111	41.667	9,250	8.026
61— 65	1	2.778	30.556	1,300	1.128
66— 70	4	11.111	27.778	7,450	6.464
71— 75	2	5.555	16.667	6,970	6.048
76— 80	1	2.778	11.112	750	.651
.. — ..					
91— 95	1	2.778	8.334	2,000	1.735
96— 100	1	2.778	5.556	1,147	.995
.. — ..					
116— 120	1	2.778	2.778	1,500	1.301
Totals	36	100.000		$ 115,252	100.000

Total sale value	$115,252
Total assessed value	58,252
Average assessment ratio on number basis	54.94
Average assessment ratio on value basis	50.52
Percentage deviation on number basis	27.88
Percentage deviation on value basis	23.04

TABLE 20

JEFFERSON, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	3.448	100.000	$ 3,500	4.986
21— 25	1	3.448	96.552	3,500	4.986
26— 30	1	3.448	93.104	700	.997
31— 35	2	6.897	89.656	3,000	4.274
.. — ..					
41— 45	3	10.345	82.759	9,664	13.767
46— 50	6	20.689	72.414	16,260	23.163
51— 55	3	10.345	51.725	11,000	15.670
56— 60	3	10.345	41.380	4,275	6.090
61— 65	2	6.897	31.035	6,325	9.010
.. — ..					
71— 75	1	3.448	24.138	3,600	5.128
.. — ..					
91— 95	1	3.448	20.690	4,750	6.766
... — ...					
101— 105	2	6.897	17.242	1,275	1.816
106— 110	1	3.448	10.345	750	1.068
111— 115	2	6.897	6.897	1,600	2.279
Totals	29	100.000		$ 70,199	100.000

Total sale value	$70,199
Total assessed value	37,500
Average assessment ratio on number basis	59.21
Average assessment ratio on value basis	53.92
Percentage deviation on number basis	34.84
Percentage deviation on value basis	27.84

TABLE 21

LE MARS, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	2	5.263	100.000	$ 1,500	1.117
26— 30	2	5.263	94.737	8,000	5.955
31— 35	4	10.526	89.474	24,400	18.165
36— 40	12	31.579	78.948	47,400	35.288
41— 45	6	15.789	47.369	24,475	18.221
46— 50	4	10.526	31.580	7,630	5.680
51— 55	1	2.632	21.054	3,500	2.606
56— 60	4	10.526	18.422	6,750	5.025
61— 65	1	2.632	7.896	3,620	2.695
66— 70	1	2.632	5.264	300	.223
.. — ..					
76— 80	1	2.632	2.632	6,750	5.025
Totals	38	100.000		$ 134,325	100.000

Total sale value	$134,325
Total assessed value	55,896
Average assessment ratio on number basis	43.00
Average assessment ratio on value basis	41.95
Percentage deviation on number basis	20.81
Percentage deviation on value basis	19.38

TABLE 22

MAQUOKETA, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	3.226	100.000	$ 250	.416
16— 20	3	9.677	96.774	2,700	4.493
21— 25	2	6.451	87.097	3,000	4.992
.. — ..					
31— 35	2	6.451	80.646	1,650	2.746
36— 40	2	6.452	74.195	4,500	7.488
41— 45	2	6.452	67.743	5,000	8.320
46— 50	6	19.355	61.291	12,800	21.300
.. — ..					
56— 60	5	16.129	41.936	15,200	25.294
61— 65	1	3.226	25.807	1,500	2.496
.. — ..					
76— 80	1	3.226	22.581	5,000	8.320
.. — ..					
86— 90	3	9.677	19.355	3,000	4.992
91— 95	1	3.226	9.678	700	1.165
96— 100	1	3.226	6.452	3,894	6.480
... — ...					
106— 110	1	3.226	3.226	900	1.498
Totals	31	100.000		$ 60,094	100.000

Total sale value	$60,094
Total assessed value	33,362
Average assessment ratio on number basis	52.35
Average assessment ratio on value basis	55.74
Percentage deviation on number basis	38.62
Percentage deviation on value basis	29.31

TABLE 23

ORANGE CITY, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	3.571	100.000	$ 2,025	2.208
16— 20	3	10.714	96.429	19,550	21.313
21— 25	3	10.714	85.715	15,950	17.388
26— 30	5	17.857	75.001	19,505	21.263
31— 35	5	17.857	57.144	12,300	13.409
36— 40	2	7.143	39.287	2,950	3.216
41— 45	2	7.143	32.144	3,200	3.488
46— 50	1	3.572	25.001	5,000	5.451
.. — ..					
61— 65	1	3.572	21.429	2,500	2.725
66— 70	2	7.143	17.857	5,300	5.778
.. — ..					
81— 85	1	3.572	10.714	1,750	1.908
.. — ...					
96— 100	1	3.571	7.142	900	.981
101— 105	1	3.571	3.571	800	.872
Totals	28	100.000		$ 91,730	100.000

Total sale value	$91,730
Total assessed value	30,730
Average assessment ratio on number basis	40.50
Average assessment ratio on value basis	32.93
Percentage deviation on number basis	44.54
Percentage deviation on value basis	38.84

TABLE 24

WEBSTER CITY, IOWA, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulatot % of Total Number	Value of Properties	% of Total Value
16— 20	1	2.564	100.000	$11,000	10.110
..— ..					
26— 30	5	12.821	97.436	6,000	5.515
31— 35	3	7.692	84.615	7,750	7.123
36— 40	4	10.257	76.923	15,425	14.177
41— 45	3	7.692	66.666	8,500	7.812
46— 50	3	7.692	58.974	8,050	7.399
51— 55	4	10.257	51.282	19,350	17.785
56— 60	4	10.257	41.025	19,400	17.831
..— ..					
66— 70	2	5.128	30.768	1,450	1.333
71— 75	3	7.692	25.640	9,000	8.272
76— 80	2	5.128	17.948	250	.230
..— ..					
96— 100	1	2.564	12.820	100	.092
...— ...					
116— 120	2	5.128	10.256	2,300	2.114
...— ...					
131— 135	2	5.128	5.128	225	.207
Totals	39	100.000		$ 108,800	100.000

Total sale value	$108,800
Total assessed value	52,720
Average assessment ratio on number basis	57.36
Average assessment ratio on value basis	47.76
Percentage deviation on number basis	38.02
Percentage deviation on value basis	28.94

TABLE 25

AUDUBON COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	4.167	100.000	$66,000	15.311
31— 35	3	12.500	95.833	40,300	9.349
36— 40	5	20.833	83.333	89,700	20.809
41— 45	1	4.167	62.500	37,500	8.700
46— 50	5	20.833	58.333	85,245	19.776
51— 55	3	12.500	37.500	41,550	9.639
56— 60	1	4.167	25.000	7,960	1.847
61— 65	4	16.666	20.833	50,800	11.785
66— 70	1	4.167	4.167	12,000	2.784
Totals	24	100.000		$ 431,055	100.000

Total sale value	$431,055
Total assessed value	188,552
Average assessment ratio on number basis	47.38
Average assessment ratio on value basis	44.01
Percentage deviation on number basis	20.01
Percentage deviation on value basis	21.90

TABLE 26

BENTON COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	2.000	100.000	$ 2,000	.226
26— 30	3	6.000	98.000	61,600	6.956
31— 35	7	14.000	92.000	145,270	16.404
36— 40	11	22.000	78.000	250,203	28.252
41— 45	12	24.000	56.000	204,737	23.118
46— 50	4	8.000	32.000	83,370	9.414
51— 55	7	14.000	24.000	94,755	10.700
56— 60	2	4.000	10.000	9,500	1.072
61— 65	1	2.000	6.000	6,634	.749
66— 70	1	2.000	4.000	14,000	1.581
.. — ..					
76— 80	1	2.000	2.000	13,532	1.528
Totals	50	100.000		$ 885,601	100.000

Total sale value	$885,601
Total assessed value	368,848
Average assessment ratio on number basis	43.20
Average assessment ratio on value basis	41.64
Percentage deviation on number basis	18.22
Percentage deviation on value basis	16.50

TABLE 27

BOONE COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	2	4.082	100.000	$40,200	6.068
26— 30	1	2.041	95.918	3,000	.453
31— 35	2	4.082	93.877	52,473	7.920
36— 40	5	10.204	89.795	75,850	11.449
41— 45	9	18.367	79.591	150,180	22.667
46— 50	11	22.448	61.224	141,696	21.387
51— 55	9	18.367	38.776	128,048	19.327
56— 60	3	6.122	20.409	21,225	3.204
61— 65	2	4.082	14.287	15,570	2.350
66— 70	2	4.082	10.205	25,800	3.894
71— 75	1	2.041	6.123	2,800	.423
76— 80	1	2.041	4.082	1,680	.254
...— ...					
106— 110	1	2.041	2.041	4,000	.604
Totals	49	100.000		$ 662,522	100.000

Total sale value	$662,522
Total assessed value	304,906
Average assessment ratio on number basis	49.33
Average assessment ratio on value basis	45.89
Percentage deviation on number basis	19.42
Percentage deviation on value basis	17.65

TABLE 28

BUENA VISTA COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	6	13.044	100.000	$102,442	9.601
36— 40	8	17.391	86.956	163,500	15.324
41— 45	7	15.217	69.565	176,800	16.571
46— 50	11	23,913	54.348	311,895	29.232
51— 55	9	19.565	30.435	209,170	19.605
56— 60	2	4.348	10.870	42,580	3.991
61— 65	1	2.174	6.522	9,000	.844
66— 70	1	2.174	4.348	25,000	2.343
71— 75	1	2.174	2.174	26,560	2.489
Totals	46	100.000		$ 1,066,947	100.000

Total sale value	$1,066,947
Total assessed value	496,705
Average assessment ratio on number basis	46.26
Average assessment ratio on value basis	46.80
Percentage deviation on number basis	15.85
Percentage deviation on value basis	14.10

TABLE 29

BUTLER COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	2	4.444	100.000	$43,000	6.190
31— 35	4	8.889	95.556	102,640	14.775
36— 40	4	8.889	86.667	56,660	8.156
41— 45	4	8.889	77.778	58,550	8.428
46— 50	5	11.111	68.889	116,726	16.802
51— 55	7	15.556	57.778	88,126	12.685
56— 60	9	20.000	42.222	107,770	15.513
61— 65	4	8.889	22.222	70,889	10.204
66— 70	2	4.444	13.333	16,740	2.410
71— 75	3	6.667	8.889	25,600	3.685
.. — ..					
81— 85	1	2.222	2.222	8,000	1.152
Totals	45	100.000		$ 694,701	100.000

Total sale value	$694,701
Total assessed value	341,956
Average assessment ratio on number basis	51.89
Average assessment ratio on value basis	48.83
Percentage deviation on number basis	20.02
Percentage deviation on value basis	21.07

TABLE 30

CALHOUN COUNTY, IOWA RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	8	17.021	100.000	$228,000	19.837
31— 35	6	12.766	82.979	170,744	14.856
36— 40	7	14.894	70.213	152,000	13.225
41— 45	11	23.404	55.319	233,280	20.296
46— 50	7	14.894	31.915	203,662	17.720
51— 55	5	10.638	17.021	100,667	8.759
.. — ..					
61— 65	2	4.255	6.383	39,000	3.393
.. — ..					
71— 75	1	2.128	2.128	22,000	1.914
Totals	47	100.000		$ 1,149,353	100.000

Total sale value	$1,149,353
Total assessed value	469,835
Average assessment ratio on number basis	41.72
Average assessment ratio on value basis	40.89
Percentage deviation on number basis	19.20
Percentage deviation on value basis	20.10

TABLE 31

CARROLL COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	4	5.555	100.000	$58,100	4.073
31— 35	12	16.667	94.445	304,414	21.339
36— 40	13	18.055	77.778	243,196	17.047
41— 45	15	20.833	59.723	333,400	23.370
46— 50	12	16.667	38.890	204,889	14.362
51— 55	10	13.889	22.223	168,725	11.827
56— 60	2	2.778	8.334	38,800	2.720
61— 65	2	2.778	5.556	39,058	2.738
66— 70	1	1.389	2.778	18,000	1.262
71— 75	1	1.389	1.389	18,000	1.262
Totals	72	100.000		$ 1,426,582	100.000

Total sale value	$1,426,582
Total assessed value	611,799
Average assessment ratio on number basis	43.56
Average assessment ratio on value basis	42.95
Percentage deviation on number basis	17.19
Percentage deviation on value basis	16.67

TABLE 32

CLAY COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	2.778	100.000	$34,500	4.956
26— 30	2	5.555	97.222	72,458	10.409
31— 35	5	13.889	91.667	135,306	19.438
36— 40	8	22.222	77.778	141,861	20.380
41— 45	5	13.889	55.556	94,690	13.603
46— 50	4	11.111	41.667	96,400	13.849
51— 55	5	13.889	30.556	59,080	8.488
56— 60	3	8.333	16.667	42,760	6.143
61— 65	1	2.778	8.334	4,000	.575
71— 75	1	2.778	5.556	13,458	1.933
76— 80	1	2.778	2.778	1,575	.226
Totals	36	100.000		$ 696,088	100.000

Total sale value	$696,088
Total assessed value	284,590
Average assessment ratio on number basis	44.67
Average assessment ratio on value basis	40.72
Percentage deviation on number basis	21.76
Percentage deviation on value basis	20.92

TABLE 33

CLINTON COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	2	8.000	100.000	$ 9,000	2.219
36— 40	3	12.000	92.000	53,800	13.267
41— 45	2	8.000	80.000	45,200	11.146
46— 50	2	8.000	72.000	47,075	11.609
51— 55	7	28.000	64.000	93,618	23.086
56— 60	1	4.000	36.000	15,000	3.699
61— 65	1	4.000	32.000	14,000	3.452
66— 70	2	8.000	28.000	42,000	10.357
71— 75	1	4.000	20.000	24,625	6.073
76— 80	1	4.000	16.000	18,000	4.439
81— 85	2	8.000	12.000	33,200	8.187
...— ...					
111— 115	1	4.000	4.000	10,000	2.466
Totals	25	100.000		$ 405,518	100.000

Total sale value	$405,518
Total assessed value	234,912
Average assessment ratio on number basis	56.80
Average assessment ratio on value basis	57.21
Percentage deviation on number basis	24.75
Percentage deviation on value basis	23.47

TABLE 34

CRAWFORD COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	.991	100.000	$ 27,360	1.305
..— ..					
31— 35	6	5.941	99.009	134,856	6.430
36— 40	6	5.941	93.068	158,700	7.567
41— 45	11	10.891	87.127	292,075	13.926
46— 50	16	15.841	76.236	352,089	16.788
51— 55	17	16.832	60.395	368,158	17.554
56— 60	15	14.851	43.563	301,991	14.398
61— 65	14	13.861	28.712	219,651	10.473
66— 70	7	6.931	14.851	112,444	5.361
71— 75	5	4.950	7.920	68,400	3.261
76— 80	3	2.970	2.970	61,598	2.937
Totals	101	100.000		$ 2,097,322	100.000

Total sale value	$2,097,322
Total assessed value	1,088,816
Average assessment ratio on number basis	53.64
Average assessment ratio on value basis	51.91
Percentage deviation on number basis	17.23
Percentage deviation on value basis	17.51

TABLE 35

GREENE COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	2	5.406	100.000	$ 37,627	5.478
36— 40	6	16.216	94.594	121,300	17.658
41— 45	7	18.919	78.378	170,400	24.806
46— 50	6	16.216	59.459	108,595	15.809
51— 55	7	18.919	43.243	112,250	16.341
56— 60	1	2.703	24.324	23,000	3.348
61— 65	2	5.406	21.621	49,490	7.204
.. — ..					
71— 75	2	5.405	16.215	22,000	3.203
76— 80	2	5.405	10.810	28,200	4.105
.. — ..					
86— 90	2	5.405	5.405	14,068	2.048
Totals	37	100.000		$ 686,930	100.000

Total sale value	$686,930
Total assessed value	341,445
Average assessment ratio on number basis	51.78
Average assessment ratio on value basis	49.26
Percentage deviation on number basis	21.34
Percentage deviation on value basis	18.80

TABLE 36

GRUNDY COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	1	3.333	100.000	$ 48,000	6.828
36— 40	8	26.667	96.667	224,800	31.979
41— 45	5	16.667	70.000	137,160	19.512
46— 50	4	13.334	53.333	69,635	9.906
51— 55	4	13.333	39.999	68,000	9.674
56— 60	1	3.333	26.666	10,000	1.423
61— 65	4	13.333	23.333	109,860	15.628
66— 70	1	3.333	10.000	9,500	1.351
71— 75	2	6.667	6.667	26,000	3.699
Totals	30	100.000		$ 702,955	100.000

Total sale value	$702,955
Total assessed value	328,500
Average assessment ratio on number basis	49.33
Average assessment ratio on value basis	46.97
Percentage deviation on number basis	19.46
Percentage deviation on value basis	19.57

TABLE 37

HAMILTON COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	3.226	100.000	$ 12,000	1.838
26— 30	4	12.903	96.774	104,548	16.013
31— 35	10	32.258	83,871	163,000	24.965
36— 40	5	16.129	51.613	105,881	16.217
41— 45	4	12.903	35.484	122,400	18.747
46— 50	4	12.903	22.581	100,461	15.387
51— 55	2	6.452	9.678	37,615	5.761
.. — ..					
81— 85	1	3.226	3.226	7,000	1.072
Totals	31	100.000		$ 652,905	100.000

Total sale value	$652,905
Total assessed value	250,165
Average assessment ratio on number basis	38.97
Average assessment ratio on value basis	38.70
Percentage deviation on number basis	20.58
Percentage deviation on value basis	18.27

TABLE 38

HARDIN COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	3	7.317	100.000	$ 43,695	5.865
31— 35	4	9.756	92.683	75,000	10.067
36— 40	4	9.756	82.927	105,800	14.201
41— 45	8	19.513	73.171	136,011	18.257
46— 50	5	12.195	53.658	85,400	11.463
51— 55	7	17.073	41.463	144,576	19.406
56— 60	5	12.195	24.390	63,400	8.510
61— 65	3	7.317	12.195	45,900	6.161
66— 70	2	4.878	4.878	45,225	6.070
Totals	41	100.000		$ 745,007	100.000

Total sale value	$745,007
Total assessed value	349,130
Average assessment ratio on number basis	47.27
Average assessment ratio on value basis	46.94
Percentage deviation on number basis	19.21
Percentage deviation on value basis	19.19

TABLE 39

HARRISON COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	1.031	100.000	$ 13,000	.933
16— 20	1	1.031	98.969	6,800	.488
21— 25	1	1.031	97.938	36,000	2.585
26— 30	6	6.186	96.907	110,638	7.944
31— 35	11	11.340	90.721	192,650	13.833
36— 40	7	7.216	79.381	79,600	5.715
41— 45	21	21.649	72.165	307,010	22.044
46— 50	13	13.402	50.516	177,750	12.763
51— 55	16	16.495	37.114	216,446	15.541
56— 60	13	13.402	20.619	161,615	11.604
61— 65	4	4.124	7.217	43,800	3.145
66— 70	1	1.031	3.093	30,000	2.154
71— 75	1	1.031	2.062	2,400	.172
.. — ..					
81— 85	1	1.031	1.031	15,032	1.079
Totals	97	100.000		$ 1,392,741	100.000

Total sale value	$1,392,741
Total assessed value	620,560
Average assessment ratio on number basis	45.94
Average assessment ratio on value basis	44.80
Percentage deviation on number basis	20.24
Percentage deviation on value basis	21.18

TABLE 40

HUMBOLDT COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	3.030	100.000	$ 49,500	9.369
.. — ..					
31— 35	5	15.152	96.970	96,000	18.169
36— 40	8	24.242	81.818	149,255	28.248
41— 45	5	15.151	57.576	64,344	12.178
46— 50	3	9.091	42.425	49,158	9.304
51— 55	5	15.152	33.334	57,264	10.838
56— 60	2	6.061	18.182	20,255	3.833
61— 65	3	9.091	12.121	28,195	5.336
.. — ..					
71— 75	1	3.030	3.030	14,400	2.725
Totals	33	100.000		$ 528,371	100.000

Total sale value	$528,371
Total assessed value	224,660
Average assessment ratio on number basis	45.27
Average assessment ratio on value basis	41.91
Percentage deviation on number basis	20.50
Percentage deviation on value basis	21.45

TABLE 41

IDA COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	2.778	100.000	$ 36,000	3.904
31— 35	3	8.333	97.222	48,750	5.286
36— 40	4	11.111	88.889	175,330	19.011
41— 45	5	13.889	77.778	105,950	11.488
46— 50	10	27.778	63.889	235,469	25.532
51— 55	6	16.667	36.111	157,160	17.041
56— 60	3	8.333	19.444	80,000	8.675
.. — ..					
66— 70	2	5.555	11.111	54,585	5.919
71— 75	1	2.778	5.556	12,000	1.301
.. — ..					
81— 85	1	2.778	2.778	17,000	1.843
Totals	36	100.000		$ 922,244	100.000

Total sale value	$922,244
Total assessed value	439,864
Average assessment ratio on number basis	48.83
Average assessment ratio on value basis	47.82
Percentage deviation on number basis	16.98
Percentage deviation on value basis	16.65

TABLE 42

JACKSON COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.887	100.000	$ 2,475	.469
.. — ..					
36— 40	5	9.434	98.113	30,007	5.690
41— 45	1	1.887	88.679	650	.123
46— 50	7	13.208	86.792	82,300	15.606
51— 55	5	9.434	73.584	64,100	12.155
56— 60	8	15.094	64.150	96,450	18.289
61— 65	5	9.434	49.056	57,200	10.847
66— 70	3	5.660	39.622	21,750	4.124
71— 75	5	9.434	33.962	49,750	9.434
76— 80	4	7.547	24.528	36,500	6.921
81— 85	4	7.547	16.981	38,770	7.352
86— 90	3	5.660	9.434	24,410	4.629
91— 95	1	1.887	3.774	7,000	1.327
96— 100	1	1.887	1.887	16,000	3.034
Totals	53	100.000		$ 527,362	100.000

Total sale value	$527,362
Total assessed value	330,984
Average assessment ratio on number basis	62.43
Average assessment ratio on value basis	63.19
Percentage deviation on number basis	21.74
Percentage deviation on value basis	19.64

TABLE 43

JONES COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	3.846	100.000	$ 2,500	.513
.. — ..					
26— 30	1	3.846	96.154	13,970	2.865
31— 35	2	7.692	92.308	18,000	3.692
36— 40	3	11.539	84.616	64,800	13.290
41— 45	9	34.615	73.077	213,514	43.791
46— 50	2	7.692	38.462	27,170	5.572
51— 55	4	15.385	30.770	72,627	14.895
.. — ..					
61— 65	4	15.385	15.385	75,000	15.382
Totals	26	100.000		$ 487,581	100.000

Total sale value	$487,581
Total assessed value	225,172
Average assessment ratio on number basis	45.12
Average assessment ratio on value basis	46.25
Percentage deviation on number basis	18.55
Percentage deviation on value basis	15.91

TABLE 44

KEOKUK COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.282	100.000	$ 6,000	.502
31— 35	3	3.846	98.718	32,760	2.743
36— 40	14	17.949	94.872	229,886	19.247
41— 45	16	20.513	76.923	313,319	26.232
46— 50	12	15.385	56.410	170,064	14.238
51— 55	9	11.538	41.025	135,700	11.361
56— 60	11	14.103	29.487	154,946	12.972
61— 65	7	8.974	15.384	96,203	8.054
66— 70	2	2.564	6.410	16,268	1.362
71— 75	2	2.564	3.846	23,280	1.949
76— 80	1	1.282	1.282	16,000	1.340
Totals	78	100.000		$ 1,194,426	100.000

Total sale value	$1,194,426
Total assessed value	577,974
Average assessment ratio on number basis	49.22
Average assessment ratio on value basis	48.49
Percentage deviation on number basis	17.76
Percentage deviation on value basis	16.73

TABLE 45

KOSSUTH COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	3	5.556	100.000	$ 70,000	6.014
31— 35	16	29.629	94.444	436,222	37.477
36— 40	12	22.222	64.815	241,335	20.734
41— 45	13	24.074	42.593	288,527	24.788
46— 50	2	3.704	18.519	18,997	1.632
51— 55	4	7.407	14.815	49,786	4.277
56— 60	3	5.556	7.408	52,100	4.476
61— 65	1	1.852	1.852	7,000	.602
Totals	54	100.000		$ 1,163,967	100.000

Total sale value	$1,163,967
Total assessed value	449,244
Average assessment ratio on number basis	40.22
Average assessment ratio on value basis	38.61
Percentage deviation on number basis	16.48
Percentage deviation on value basis	14.87

TABLE 46

MAHASKA COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	3	10.715	100.000	$78,243	16.749
31— 35	4	14.286	89.285	73,100	15.648
36— 40	5	17.857	74.999	96,660	20.691
41— 45	2	7.143	57.142	29,752	6.369
46— 50	7	25.000	49.999	88,725	18.993
51— 55	3	10.715	24.999	49,220	10.536
56— 60	1	3.571	14.284	7,033	1.505
61— 65	1	3.571	10.713	4,500	.963
66— 70	1	3.571	7.142	27,423	5.870
71— 75	1	3.571	3.571	12,500	2.676
Totals	28	100.000		$ 467,156	100.000

Total sale value	$467,156
Total assessed value	199,471
Average assessment ratio on number basis	44.61
Average assessment ratio on value basis	42.58
Percentage deviation on number basis	21.21
Percentage deviation on value basis	22.97

TABLE 47

MARSHALL COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	3.704	100.000	$ 3,000	.636
26— 30	2	7.407	96.296	21,925	4.648
..— ..					
36— 40	1	3.704	88.889	20,296	4.303
41— 45	5	18.518	85.185	57,621	12.216
46— 50	3	11.111	66.667	79,007	16.750
51— 55	6	22.222	55.556	130,513	27.669
56— 60	1	3.704	33.334	8,000	1.696
61— 65	1	3.704	29.630	27,000	5.724
66— 70	5	18.518	25.926	87,260	18.499
71— 75	1	3.704	7.408	20,900	4.431
76— 80	1	3.704	3.704	16,169	3.428
Totals	27	100.000		$ 471,691	100.000

Total sale value	$471,691
Total assessed value	254,114
Average assessment ratio on number basis	52.07
Average assessment ratio on value basis	54.12
Percentage deviation on number basis	21.18
Percentage deviation on value basis	17.74

TABLE 48

MONONA COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	3	7.143	100.000	$ 66,500	9.328
31— 35	2	4.762	92.857	37,550	5.267
36— 40	6	14.285	88.095	118,925	16.681
41— 45	15	35.714	73.810	275,510	38.646
46— 50	5	11.905	38.096	71,175	9.984
51— 55	3	7.143	26.191	45,656	6.404
56— 60	3	7.143	19.048	35,500	4.980
61— 65	2	4.762	11.905	37,200	5.218
66— 70	1	2.381	7.143	4,500	.631
71— 75	1	2.381	4.762	4,400	.617
..— ..					
81— 85	1	2.381	2.381	16,000	2.244
Totals	42	100.000		$ 712,916	100.000

Total sale value	$712,916
Total assessed value	312,992
Average assessment ratio on number basis	46.33
Average assessment ratio on value basis	44.41
Percentage deviation on number basis	18.67
Percentage deviation on value basis	16.87

TABLE 49

MONROE COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	2.564	100.000	$20,000	7.528
.. — ..					
31— 35	1	2.564	97.436	19,000	7.151
36— 40	2	5.128	94.872	19,900	7.490
41— 45	6	15.385	89.744	27,485	10.345
46— 50	8	20.513	74.359	56,660	21.326
51— 55	1	2.564	53.846	2,100	.790
56— 60	6	15.385	51.282	47,600	17.916
61— 65	6	15.385	35.897	35,700	13.437
66— 70	1	2.564	20.512	5,000	1.882
71— 75	3	7.692	17.948	7,500	2.823
.. — ..					
81— 85	1	2.564	10.256	3,500	1.318
86— 90	1	2.564	7.692	10,240	3.854
91— 95	2	5.128	5.128	11,000	4.140
Totals	39	100.000		$ 265,685	100.000

Total sale value	$265,685
Total assessed value	137,733
Average assessment ratio on number basis	56.33
Average assessment ratio on value basis	52.57
Percentage deviation on number basis	22.16
Percentage deviation on value basis	25.43

TABLE 50

O'BRIEN COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	1.754	100.000	$ 24,000	1.681
.. — ..					
31— 35	8	14.035	98.246	264,090	18.499
36— 40	16	28.070	84.211	400,314	28.042
41— 45	10	17.544	56.141	253,750	17.775
46— 50	10	17.544	38.597	240,880	16.874
51— 55	3	5.264	21.053	70,560	4.943
56— 60	7	12.281	15.789	136,701	9.576
61— 65	1	1.754	3.508	19,156	1.342
66— 70	1	1.754	1.754	18,100	1.268
Totals	57	100.000		$ 1,427,551	100.000

Total sale value	$1,427,551
Total assessed value	612,216
Average assessment ratio on number basis	43.88
Average assessment ratio on value basis	42.77
Percentage deviation on number basis	16.84
Percentage deviation on value basis	16.27

TABLE 51

PLYMOUTH COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Numoer	Value of Properties	% of Total Value
31— 35	3	4.412	100.000	$ 85,200	5.747
36— 40	14	20.588	95.588	395,095	26.653
41— 45	20	29.412	75.000	429,800	28.994
46— 50	7	10.294	45.588	116,000	7.825
51— 55	7	10.294	35.294	179,440	12.105
56— 60	5	7.353	25.000	76,286	5.146
61— 65	8	11.764	17.647	105,350	7.107
66— 70	2	2.941	5.883	67,369	4.544
71— 75	1	1.471	2.942	9,590	.647
76— 80	1	1.471	1.471	18,263	1.232
Totals	68	100.000		$ 1,482,393	100.000

Total sale value	$1,482,393
Total assessed value	705,043
Average assessment ratio on number basis	48.22
Average assessment ratio on value basis	46.65
Percentage deviation on number basis	17.98
Percentage deviation on value basis	17.79

TABLE 52

POCAHONTAS COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	1.613	100.000	$ 2,400	.168
26— 30	3	4.839	98.387	110,000	7.693
31— 35	8	12.903	93.548	186,000	13.007
36— 40	10	16.129	80.645	292,828	20.477
41— 45	15	24.193	64.516	322,034	22.520
46— 50	13	20.968	40.323	299,193	20.922
51— 55	8	12.903	19.355	149,135	10.429
56— 60	3	4.839	6.452	60,923	4.260
76— 80	1	1.613	1.613	7,500	.524
Totals	62	100.000		$ 1,430,013	100.000

Total sale value	$1,430,013
Total assessed value	609,900
Average assessment ratio on number basis	43.48
Average assessment ratio on value basis	42.40
Percentage deviation on number basis	15.80
Percentage deviation on value basis	15.40

TABLE 53

POLK COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	4.167	100.000	$ 4,000	1.279
36— 40	3	12.500	95.833	35,500	11.347
41— 45	3	12.500	83.333	45,500	14.544
46— 50	2	8.333	70.833	30,500	9.749
51— 55	1	4.167	62.500	28,500	9.110
56— 60	3	12.500	58.333	61,700	19.722
61— 65	4	16.666	45.833	64,760	20.700
66— 70	3	12.500	29.167	10,840	3.465
71— 75	2	8.333	16.667	21,550	6.888
76— 80	1	4.167	8.334	5,500	1.758
81— 85	1	4.167	4.167	4,500	1.438
Totals	24	100.000		$ 312,850	100.000

Total sale value	$312,850
Total assessed value	169,738
Average assessment ratio on number basis	56.54
Average assessment ratio on value basis	54.86
Percentage deviation on number basis	21.44
Percentage deviation on value basis	17.57

TABLE 54

POTTAWATTAMIE COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	2	2.381	100.000	$ 33,000	2.260
26— 30	4	4.762	97.619	52,050	3.564
31— 35	6	7.143	92.857	194,800	13.338
36— 40	14	16.667	85.714	261,780	17.925
41— 45	7	8.333	69.047	83,467	5.715
46— 50	14	16.667	60.714	274,595	18.802
51— 55	14	16.667	44.047	181,319	12.415
56— 60	9	10.714	27.380	178,270	12.207
61— 65	5	5.952	16.667	86,314	5.910
66— 70	4	4.762	10.714	75,304	5.156
71— 75	2	2.381	5.952	20,800	1.424
76— 80	2	2.381	3.571	7,000	.479
81— 85	1	1.190	1.190	11,750	.805
Totals	84	100.000		$ 1,460,449	100.000

Total sale value	$1,460,449
Total assessed value	691,474
Average assessment ratio on number basis	48.77
Average assessment ratio on value basis	47.18
Percentage deviation on number basis	21.06
Percentage deviation on value basis	21.24

TABLE 55

POWESHIEK COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.923	100.000	$ 15,000	1.980
..— ..					
36— 40	2	3.846	98.077	27,300	3.604
41— 45	6	11.539	94.231	84,247	11.122
46— 50	11	21.154	82.692	200,975	26.532
51— 55	8	15.384	61.538	97,471	12.867
56— 60	10	19.231	46.154	165,000	21.781
61— 65	4	7.692	26.923	69,411	9.163
66— 70	5	9.616	19.231	44,711	5.903
71— 75	1	1.923	9.615	15,377	2.030
76— 80	2	3.846	7.692	18,000	2.378
81— 85	1	1.923	3.846	8,000	1.056
..— ..					
91— 95	1	1.923	1.923	12,000	1.584
Totals	52	100.000		$ 757,492	100.000

Total sale value	$757,492
Total assessed value	414,598
Average assessment ratio on number basis	55.60
Average assessment ratio on value basis	54.37
Percentage deviation on number basis	16.78
Percentage deviation on value basis	15.60

TABLE 56

SAC COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.961	100.000	$ 31,000	2.681
31— 35	5	9.804	98.039	119,000	10.290
36— 40	15	29.412	88.235	395,718	34.219
41— 45	9	17.647	58.823	194,060	16.781
46— 50	6	11.764	41.176	145,735	12.602
51— 55	3	5.882	29.412	40,186	3.475
56— 60	4	7.843	23.530	95,050	8.219
61— 65	1	1.961	15.687	41,000	3.546
66— 70	3	5.882	13.726	50,675	4.382
71— 75	1	1.961	7.844	9,000	.778
76— 80	1	1.961	5.883	20,000	1.729
...— ...					
111— 115	1	1.961	3.922	12,000	1.038
...— ...					
131— 135	1	1.961	1.961	3,000	.260
Totals	51	100.000		$ 1,156,424	100.000

Total sale value	$1,156,424
Total assessed value	534,544
Average assessment ratio on number basis	48.88
Average assessment ratio on value basis	45.67
Percentage deviation on number basis	25.82
Percentage deviation on value basis	21.24

TABLE 57

SHELBY COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	1.695	100.000	$ 28,716	2.233
26— 30	1	1.695	98.305	22,000	1.710
31— 35	6	10.169	96.610	254,900	19.817
36— 40	13	22.034	86.441	288,072	22.396
41— 45	5	8.475	64.407	88,400	6.873
46— 50	9	15.254	55.932	202,150	15.716
51— 55	7	11.864	40.678	108,867	8.464
56— 60	9	15.254	28.814	164,945	12.824
61— 65	3	5.085	13.560	57,080	4.438
66— 70	3	5.085	8.475	48,625	3.780
71— 75	1	1.695	3.390	16,800	1.306
.. — ..					
86— 90	1	1.695	1.695	5,700	.443
Totals	59	100.000		$ 1,286,255	100.000

Total sale value	$1,286,255
Total assessed value	577,588
Average assessment ratio on number basis	48.08
Average assessment ratio on value basis	45.18
Percentage deviation on number basis	20.65
Percentage deviation on value basis	21.96

TABLE 58

SIOUX COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	5	4.310	100.000	$102,740	4.296
26— 30	1	.862	96.230	10,500	.439
31— 35	20	17.241	95.368	472,956	19.776
36— 40	30	25.862	78.127	680,620	28.459
41— 45	21	18.104	52.265	414,007	17.311
46— 50	14	12.069	34.161	262,900	10.992
51— 55	13	11.207	21.552	249,490	10.431
56— 60	7	6.035	10.345	131,030	5.479
61— 65	2	1.724	4.310	40,775	1.705
66— 70	2	1.724	2.586	19,200	.803
.. — ..					
86— 90	1	.862	.862	7,400	.309
Totals	116	100.000		$ 2,391,618	100.00

Total sale value	$2,391,618
Total assessed value	1,011,782
Average assessment ratio on number basis	42.78
Average assessment ratio on value basis	41.77
Percentage deviation on number basis	18.26
Percentage deviation on value basis	17.60

TABLE 59

STORY COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	2	3.704	100.000	$ 63,000	6.915
31— 35	1	1.852	96.296	27,000	2.964
36— 40	5	9.259	94.444	98,200	10.778
41— 45	8	14.815	85.185	144,000	15.805
46— 50	12	22.222	70.370	205,602	22.566
51— 55	10	18.518	48.148	198,410	21.777
56— 60	5	9.259	29.630	85,040	9.334
61— 65	3	5.556	20.371	24,850	2.728
66— 70	4	7.407	14.815	36,700	4.028
71— 75	1	1.852	7.408	4,500	.493
76— 80	2	3.704	5.556	13,000	1.427
81— 85	1	1.852	1.852	10,800	1.185
Totals	54	100.000		$ 911,102	100.000

Total sale value	$911,102
Total assessed value	445,125
Average assessment ratio on number basis	51.70
Average assessment ratio on value basis	48.51
Percentage deviation on number basis	17.81
Percentage deviation on value basis	16.47

TABLE 60

TAMA COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	2	4.545	100.000	$ 34,800	5.091
.. — ..					
31— 35	1	2.273	95.455	3,000	.439
36— 40	11	25.000	93.182	185,160	27.089
41— 45	8	18.182	68.181	135,895	19.882
46— 50	6	13.636	50.001	57,800	8.456
51— 55	5	11.364	36.365	102,600	15.011
56— 60	1	2.273	25.001	24,000	3.511
61— 65	4	9.091	22.728	38,200	5.589
66— 70	5	11.364	13.637	86,973	12.724
.. — ..					
81— 85	1	2.273	2.273	15,094	2.208
Totals	44	100.000		$ 683,522	100.000

Total sale value	$683,522
Total assessed value	329,864
Average assessment ratio on number basis	48.11
Average assessment ratio on value basis	47.96
Percentage deviation on number basis	21.55
Percentage deviation on value basis	22.00

TABLE 61

WEBSTER COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	1.562	100.000	$ 6,807	.615
..— ..					
26— 30	1	1.562	98.438	6,500	.587
31— 35	11	17.188	96.876	188,486	17.024
36— 40	14	21.875	79.688	281,501	25.425
41— 45	15	23.438	57.813	249,235	22.510
46— 50	13	20.313	34.375	236,090	21.323
51— 55	7	10.938	14.062	126,380	11.414
56— 60	1	1.562	3.124	10,000	.903
61— 65	1	1.562	1.562	2,200	.199
Totals	64	100.000		$ 1,107,199	100.000

Total sale value	$1,107,199
Total assessed value	466,486
Average assessment ratio on number basis	42.22
Average assessment ratio on value basis	42.17
Percentage deviation on number basis	14.73
Percentage deviation on value basis	13.52

TABLE 62

WINNEBAGO COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	3.846	100.000	$ 6,000	1.597
..— ..					
26— 30	1	3.846	96.154	28,000	7.454
31— 35	3	11.539	92.308	89,000	23.695
36— 40	7	26.923	80.769	91,925	24.473
41— 45	4	15.385	53.846	49,350	13.139
46— 50	4	15.385	38.461	33,340	8.876
51— 55	3	11.538	23.076	29,200	7.774
56— 60	3	11.538	11.538	48,800	12.992
Totals	26	100.000		$ 375,615	100.000

Total sale value	$375,615
Total assessed value	152,286
Average assessment ratio on number basis	42.62
Average assessment ratio on value basis	41.06
Percentage deviation on number basis	18.11
Percentage deviation on value basis	19.48

TABLE 63

WOODBURY COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.613	100.000	$ 5,000	.475
31— 35	1	1.613	98.387	30,860	2.930
36— 40	9	14.516	96.774	128,000	12.152
41— 45	16	25.806	82.258	357,375	33.929
46— 50	12	19.355	56.452	209,208	19.862
51— 55	6	9.677	37.097	79,638	7.561
56— 60	5	8.064	27.420	62,416	5.926
61— 65	4	6.452	19.356	52,000	4.937
66— 70	3	4.839	12.904	75,600	7.177
71— 75	3	4.839	8.065	47,600	4.519
76— 80	1	1.613	3.226	4,000	.380
.. — ..					
86— 90	1	1.613	1.613	1,600	.152
Totals	62	100.000		$ 1,053,297	100.000

Total sale value	$1,053,297
Total assessed value	514,398
Average assessment ratio on number basis	50.26
Average assessment ratio on value basis	49.01
Percentage deviation on number basis	18.80
Percentage deviation on value basis	16.91

TABLE 64

WORTH COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
36— 40	5	22.727	100.000	$40,692	15.955
41— 45	6	27.273	77.273	87,675	34.376
46— 50	6	27.273	50.000	85,335	33.459
51— 55	1	4.545	22.727	3,000	1.176
56— 60	3	13.637	18.182	24,050	9.430
61— 65	1	4.545	4.545	14,294	5.604
Totals	22	100.000		$ 255,046	100.000

Total sale value	$255,046
Total assessed value	117,418
Average assessment ratio on number basis	46.64
Average assessment ratio on value basis	46.53
Percentage deviation on number basis	12.67
Percentage deviation on value basis	11.07

TABLE 65

WRIGHT COUNTY, IOWA, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	6	10.169	100.000	$120,684	9.780
36— 40	10	16.949	89.831	231,715	18.777
41— 45	7	11.865	72.882	151,255	12.257
46— 50	10	16.949	61.017	205,790	16.676
51— 55	11	18.644	44.068	271,009	21.961
56— 60	6	10.169	25.424	108,320	8.778
61— 65	5	8.475	15.255	89,056	7.217
66— 70	3	5.085	6.780	50,600	4.100
.. — ..					
76— 80	1	1.695	1.695	5,600	.454
Totals	59	100.000		$ 1,234,029	100.000

Total sale value	$1,234,029
Total assessed value	597,460
Average assessment ratio on number basis	48.93
Average assessment ratio on value basis	48.06
Percentage deviation on number basis	17.72
Percentage deviation on value basis	16.60

Section B--Wisconsin Tables

TABLE 66

EAU CLAIRE, WISCONSIN, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	2	1.010	100.000	$10,400	1.691
26— 30	3	1.515	98.990	5,800	.943
31— 35	8	4.040	97.475	21,250	3.456
36— 40	14	7.071	93.435	35,900	5.838
41— 45	14	7.071	86.364	28,665	4.661
46— 50	20	10.101	79.293	66,525	10.818
51— 55	22	11.111	69.192	69,530	11.307
56— 60	27	13.637	58.081	73,450	11.944
61— 65	10	5.051	44.444	48,450	7.879
66— 70	22	11.111	39.393	81,875	13.314
71— 75	16	8.081	28.282	58,000	9.432
76— 80	9	4.546	20.201	11,500	1.870
81— 85	7	3.535	15.655	57,705	9.384
86— 90	4	2.020	12.120	7,855	1.277
91— 95	5	2.525	10.100	17,400	2.830
96— 100	6	3.030	7.575	4,890	.795
101— 105	1	.505	4.545	4,500	.731
106— 110	1	.505	4.040	1,300	.211
111— 115	1	.505	3.535	4,000	.650
116— 120	3	1.515	3.030	2,550	.415
121— 125	1	.505	1.515	1,000	.163
...— ...					
176— 180	1	.505	1.010	1,400	.228
...— ...					
196— 200	1	.505	.505	1,000	.163
Totals	198	100.000		$ 614,945	100.000

Total sale value	$614,945
Total assessed value	383,120
Average assessment ratio on number basis	62.52
Average assessment ratio on value basis	61.95
Average percentage deviation on number basis	26.78
Average percentage deviation on value basis	23.41

TABLE 67

OSHKOSH, WISCONSIN, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	.500	100.000	$ 5,000	.616
...— ...					
31— 35	3	1.500	99.500	1,300	.160
36— 40	3	1.500	98.000	6,650	.819
41— 45	6	3.000	96.500	10,075	1.241
46— 50	14	7.000	93.500	9,660	1.190
51— 55	9	4.500	86.500	15,350	1.891
56— 60	17	8.500	82.000	21,975	2.707
61— 65	9	4.500	73.500	48,978	6.033
66— 70	25	12.500	69.000	298,910	36.816
71— 75	18	9.000	56.500	133,900	16.492
76— 80	21	10.500	47.500	78,150	9.626
81— 85	6	3.000	37.000	34,180	4.210
86— 90	11	5.500	34.000	35,100	4.323
91— 95	13	6.500	28.500	47,960	5.908
96— 100	19	9.500	22.000	33,800	4.163
101— 105	1	.500	12.500	145	.018
106— 110	4	2.000	12.000	9,150	1.127
111— 115	3	1.500	10.000	1,100	.135
116— 120	3	1.500	8.500	4,550	.560
121— 125	1	.500	7.000	3,800	.468
...— ...					
131— 135	4	2.000	6.500	6,875	.847
...— ...					
141— 145	1	.500	4.500	350	.043
146— 150	2	1.000	4.000	4,000	.493
...— ...					
156— 160	1	.500	3.000	125	.015
...— ...					
166— 170	2	1.000	2.500	375	.046
...— ...					
196— 200	1	.500	1.500	50	.006
...— ...					
211— 215	1	.500	1.000	35	.004
...— ...					
221— 225	1	.500	.500	350	.043
Totals	200	100.000		$ 811,893	100.000

Total sale value	$811,893
Total assessed value	604,925
Average assessment ratio on number basis	79.18
Average assessment ratio on value basis	74.20
Percentage deviation on number basis	26.88
Percentage deviation on value basis	14.47

TABLE 68

RACINE, WISCONSIN, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	2	1.000	100.000	$ 6,600	.603
36— 40	4	2.000	99.000	47,100	4.304
41— 45	4	2.000	97.000	32,250	2.947
46— 50	2	1.000	95.000	6,100	.557
51— 55	11	5.500	94.000	63,000	5.757
56— 60	26	13.000	88.500	149,061	13.622
61— 65	20	10.000	75.500	231,050	21.114
66— 70	26	13.000	65.500	249,910	22.838
71— 75	19	9.500	52.500	116,366	10.634
76— 80	19	9.500	43.000	86,950	7.946
81— 85	15	7.500	33.500	52,135	4.764
86— 90	16	8.000	26.000	25,367	2.318
91— 95	6	3.000	18.000	4,425	.404
96— 100	10	5.000	15.000	9,050	.827
101— 105	1	.500	10.000	475	.043
106— 110	2	1.000	9.500	2,550	.233
111— 115	5	2.500	8.500	4,100	.375
116— 120	4	2.000	6.000	2,200	.201
121— 125	1	.500	4.000	400	.037
126— 130	2	1.000	3.500	1,425	.130
131— 135	2	1.000	2.500	760	.070
...— ...					
141— 145	2	1.000	1.500	2,725	.249
...— ...					
196— 200	1	.500	.500	300	.027
Totals	200	100.000		$ 1,094,299	100.000

Total sale value	$1,094,299
Total assessed value	722,650
Average assessment ratio on number basis	75.75
Average assessment ratio on value basis	65.97
Percentage deviation on number basis	21.70
Percentage deviation on value basis	14.05

TABLE 69

BERLIN, MEDFORD, DARLINGTON, WISCONSIN, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
56— 60	1	1.639	100.000	$ 1,100	.764
61— 65	1	1.639	98.361	650	.451
66— 70	2	3.279	96.722	3,500	2.430
71— 75	2	3.279	93.443	5,500	3.819
76— 80	4	6.557	90.164	12,225	8.488
81— 85	5	8.197	83.607	14,750	10.242
86— 90	14	22.951	75.410	42,942	29.816
91— 95	5	8.197	52.459	8,590	5.864
96— 100	6	9.836	44.262	8,900	6.180
101— 105	2	3.279	34.426	4,975	3.454
106— 110	1	1.639	31.147	140	.097
111— 115	6	9.836	29.508	19,200	13.331
116— 120	4	6.557	19.672	12,950	8.992
121— 125	2	3.279	13.115	4,400	3.055
126— 130	2	3.279	9.836	1,550	1.076
...— ...					
141— 145	2	3.279	6.557	1,850	1.285
146— 150	1	1.639	3.278	750	.521
...— ...					
176— 180	1	1.639	1.639	50	.035
Totals	61	100.000		$ 144,022	100.000

Total sale value.....$144,022
Total assessed value..... 137,300
Average assessment ratio on number basis 98.25
Average assessment ratio on value basis 95.27
Percentage deviation on number basis 17.18
Percentage deviation on value basis 14.63

TABLE 70

PRAIRIE DU SAC, VIROQUA, MAUSTON, CHILTON, WISCONSIN, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
41— 45	1	1.818	100.000	$ 700	.490
.. — ..					
51— 55	1	1.818	98.182	4,000	2.801
56— 60	2	3.637	96.364	4,550	3.186
61— 65	6	10.909	92.727	16,700	11.692
66— 70	2	3.636	81.818	6,900	4.831
71— 75	3	5.455	78.182	4,450	3.116
76— 80	12	21.818	72.727	29,105	20.377
81— 85	4	7.273	50.909	12,000	8.402
86— 90	11	20.000	43.636	29,150	20.409
91— 95	5	9.091	23.636	12,075	8.454
96— 100	3	5.455	14.545	6,200	4.341
101— 105	1	1.818	9.090	2,200	1.540
106— 110	1	1.818	7.272	10,000	7.001
111— 115	1	1.818	5.454	3,900	2.730
116— 120	1	1.818	3.636	500	.350
121— 125	1	1.818	1.818	400	.280
Totals	55	100.000		$ 142,830	100.000

Total sale value	$142,830
Total assessed value	117,600
Average assessment ratio on number basis	81.91
Average assessment ratio on value basis	82.40
Percentage deviation on number basis	14.67
Percentage deviation on value basis	14.44

TABLE 71

WATERFORD, WHITEWATER, PORT WASHINGTON, AMERY, WISCONSIN, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	1.667	100.000	$ 600	.374
..— ..					
31— 35	1	1.667	98.333	1,268	.791
36— 40	3	5.000	96.666	4,050	2.526
41— 45	3	5.000	91.666	13,300	8.296
46— 50	3	5.000	86.666	14,200	8.857
51— 55	7	11.666	81.666	23,325	14.549
56— 60	6	10.000	70.000	13,950	8.702
61— 65	2	3.333	60.000	12,600	7.859
66— 70	9	15.000	56.667	27,450	17.122
71— 75	5	8.333	41.667	17,625	10.994
76— 80	3	5.000	33.334	3,525	2.199
81— 85	3	5.000	28.334	6,200	3.867
86— 90	3	5.000	23.334	5,775	3.602
91— 95	1	1.667	18.334	1,200	.749
96— 100	6	10.000	16.667	9,550	5.957
101— 105	2	3.333	6.667	3,750	2.339
106— 110	1	1.667	3.334	650	.406
...— ...					
131— 135	1	1.667	1.667	1,300	.811
Totals	60	100.000		$ 160,318	100.000

Total sale value	$160,318
Total assessed value	104,560
Average assessment ratio on value basis	65.06
Average assessment ratio on number basis	69.00
Percentage deviation on value basis	21.41
Percentage deviation on number basis	24.88

TABLE 72

COLUMBIA COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
41— 45	1	1.818	100.000	$ 3,500	.936
..— ..					
51— 55	3	5.455	98.182	11,900	3.181
56— 60	5	9.091	92.727	53,925	14.416
61— 65	5	9.091	83.636	30,750	8.220
66— 70	3	5.455	74.545	9,000	2.406
71— 75	6	10.909	69.090	45,100	12.056
76— 80	6	10.909	58.181	58,000	15.505
81— 85	5	9.091	47.272	55,500	14.837
86— 90	5	9.091	38.181	32,100	8.581
91— 95	1	1.818	29.090	10,000	2.673
96— 100	4	7.273	27.272	21,750	5.814
101— 105	1	1.818	19.999	4,800	1.283
106— 110	1	1.818	18.181	6,000	1.604
111— 115	5	9.091	16.363	28,100	7.512
...— ...					
126— 130	1	1.818	7.272	1,000	.267
...— ...					
141— 145	1	1.818	5.454	300	.080
146— 150	1	1.818	3.636	2,000	.535
...— ...					
201— 205	1	1.818	1.818	350	.094
Totals	55	100.000		$ 374,075	100.000

Total sale value	$374,075
Total assessed value	295,296
Average assessment ratio on number basis	84.64
Average assessment ratio on value basis	79.19
Percentage deviation on number basis	23.44
Percentage deviation on value basis	17.06

TABLE 73

DANE COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	2	3.571	100.000	$38,500	8.158
..— ..					
41— 45	1	1.786	96.429	6,000	1.271
46— 50	2	3.571	94.643	54,750	11.602
51— 55	1	1.785	91.072	15,000	3.179
56— 60	1	1.785	89.287	14,900	3.157
61— 65	4	7.143	87.502	16,900	3.581
66— 70	3	5.357	80.359	29,800	6.315
71— 75	3	5.357	75.002	9,000	1.907
76— 80	3	5.357	69.645	41,750	8.847
81— 85	5	8.929	64.288	51,700	10.956
86— 90	6	10.714	55.359	55,300	11.718
91— 95	5	8.929	44.645	28,555	6.051
96— 100	1	1.786	35.716	8,350	1.769
101— 105	3	5.357	33.930	11,640	2.467
106— 110	1	1.786	28.573	5,300	1.123
111— 115	5	8.929	26.787	24,700	5.234
116— 120	2	3.571	17.858	14,560	3.086
121— 125	2	3.571	14.287	10,700	2.268
126— 130	1	1.786	10.716	9,900	2.098
131— 135	1	1.786	8.930	7,200	1.526
...— ...					
146— 150	1	1.786	7.144	3,000	.636
151— 155	1	1.786	5.358	5,500	1.165
156— 160	1	1.786	3.572	6,500	1.377
...— ...					
181— 185	1	1.786	1.786	2,400	.509
Totals	56	100.000		$ 471,905	100.000

Total sale value	$471,905
Total assessed value	381,795
Average assessment ratio on number basis	91.04
Average assessment ratio on value basis	80.58
Percentage deviation on number basis	25.66
Percentage deviation on value basis	28.61

TABLE 74

GREEN COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
61— 65	2	5.714	100.000	$ 3,650	1.175
66— 70	1	2.857	94.286	800	.257
71— 75	1	2.857	91.429	10,850	3.491
76— 80	1	2.857	88.572	1,050	.338
81— 85	2	5.714	85.715	25,200	8.109
86— 90	4	11.429	80.001	25,600	8.238
91— 95	5	14.286	68.572	49,210	15.836
96— 100	4	11.429	54.286	56,171	18.076
101— 105	5	14.286	42.857	54,150	17.425
106— 110	4	11.429	28.571	46,250	14.883
111— 115	1	2.857	17.142	12,500	4.023
116— 120	3	8.571	14.285	19,625	6.315
121— 125	1	2.857	5.714	3,200	1.030
126— 130	1	2.857	2.857	2,500	.804
Totals	35	100.000		$ 310,756	100.000

Total sale value	$310,756
Total assessed value	305,920
Average assessment ratio on number basis	96.71
Average assessment ratio on value basis	98.46
Percentage deviation on number basis	12.97
Percentage deviation on value basis	9.18

TABLE 75

GREEN LAKE COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
46— 50	1	3.704	100.000	$ 2,500	1.391
56— 60	1	3.704	96.296	3,000	1.669
71— 75	1	3.704	92.592	425	.236
81— 85	3	11.111	88.888	43,350	24.113
86— 90	4	14.815	77.777	25,900	14.407
91— 95	4	14.815	62.962	30,400	16.910
96— 100	5	18.518	48.147	20,100	11.181
101— 105	2	7.407	29.629	12,700	7.064
106— 110	3	11.111	22.222	19,300	10.735
111— 115	2	7.407	11.111	20,100	11.181
131— 135	1	3.704	3.704	2,000	1.113
Totals	27	100.000		$ 179,775	100.000

Total sale value	$179,775
Total assessed value	169,385
Average assessment ratio on number basis	93.74
Average assessment ratio on value basis	94.17
Percentage deviation on number basis	12.67
Percentage deviation on value basis	10.78

TABLE 76

JEFFERSON COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
61— 65	1	4.348	100.000	$ 5,800	4.458
..— ..					
71— 75	1	4.348	95.652	6,500	4.996
76— 80	3	13.043	91.304	18,700	14.373
81— 85	2	8.696	78.261	8,700	6.687
86— 90	2	8.696	69.565	14,000	10.761
91— 95	6	26.086	60.869	34,100	26.211
96— 100	3	13.043	34.783	13,300	10.223
101— 105	1	4.348	21.740	7,500	5.765
106— 110	1	4.348	17.392	3,000	2.306
111— 115	2	8.696	13.004	12,000	9.224
116— 120	1	4.348	4.348	6,500	4.996
Totals	23	100.000		$ 130,100	100.000

Total sale value	$130,100
Total assessed value	119,565
Average assessment ratio on number basis	92.13
Average assessment ratio on value basis	91.83
Percentage deviation on number basis	11.06
Percentage deviation on value basis	11.36

TABLE 77

JUNEAU COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
56— 60	1	3.448	100.000	$ 800	1.003
61— 65	1	3.448	96.552	16,000	20.063
66— 70	1	3.448	93.104	1,000	1.254
71— 75	3	10.345	89.656	14,550	18.245
76— 80	2	6.897	79.311	4,600	5.768
81— 85	5	17.242	72.414	6,925	8.683
86— 90	6	20.690	55.172	8,550	10.721
91— 95	1	3.448	34.482	200	.251
96— 100	2	6.897	31.034	6,700	8.401
101— 105	2	6.897	24.137	16,000	20.062
106— 110	1	3.448	17.240	625	.784
111— 115	1	3.448	13.792	300	.376
...— ...					
121— 125	1	3.448	10.344	650	.815
126— 130	1	3.448	6.896	2,200	2.759
...— ...					
151— 155	1	3.448	3.448	650	.815
Totals	29	100.000		$ 79,750	100.000

Total sale value	$79,750
Total assessed value	67,442
Average assessment ratio on number basis	90.59
Average assessment ratio on value basis	84.72
Percentage deviation on number basis	16.30
Percentage deviation on value basis	17.73

TABLE 78

LA FAYETTE COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
81— 85	1	3.030	100.000	$ 7,000	2.736
86— 90	4	12.121	96.970	38,500	15.048
91— 95	7	21.212	84.849	62,250	24.331
96— 100	10	30.303	63.637	77,150	30.154
101— 105	3	9.091	33.334	29,450	11.511
106— 110	2	6.061	24.243	15,600	6.097
111— 115	4	12.122	18.182	11,500	4.495
116— 120	1	3.030	6.060	2,400	.938
...— ...					
136— 140	1	3.030	3.030	12,000	4.690
Totals	33	100.000		$ 255,850	100.000

Total sale value	$255,850
Total assessed value	252,234
Average assessment ratio on number basis	99.97
Average assessment ratio on value basis	98.79
Percentage deviation on number basis	8.08
Percentage deviation on value basis	7.50

TABLE 79

RICHLAND COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
56— 60	1	4.546	100.000	$ 3,800	3.501
..— ..					
66— 70	3	13.636	95.454	16,950	15.615
71— 75	3	13.636	81.818	8,050	7.416
76— 80	5	22.727	68.182	24,650	22.708
81— 85	3	13.636	45.455	14,800	13.634
86— 90	2	9.091	31.819	7,300	6.725
91— 95	3	13.636	22.728	22,400	20.636
96— 100	1	4.546	9.092	2,600	2.395
101— 105	1	4.546	4.546	8,000	7.370
Totals	22	100.000		$ 108,550	100.000

Total sale value	$108,550
Total assessed value	88,570
Average assessment ratio on number basis	80.73
Average assessment ratio on value basis	82.14
Percentage deviation on number basis	11.00
Percentage deviation on valve basis	11.37

TABLE 80

ROCK COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	2.000	100.000	$ 5,995	1.534
36— 40	1	2.000	98.000	500	.128
46— 50	1	2.000	96.000	16,000	4.095
51— 55	1	2.000	94.000	5,500	1.408
56— 60	2	4.000	92.000	10,000	2.559
61— 65	5	10.000	88.000	31,200	7.985
66— 70	1	2.000	78.000	5,000	1.280
71— 75	6	12.000	76.000	35,900	9.188
76— 80	2	4.000	64.000	8,750	2.239
81— 85	5	10.000	60.000	55,575	14.222
86— 90	6	12.000	50.000	53,203	13.616
91— 95	1	2.000	38.000	27,000	6.910
96— 100	3	6.000	36.000	20,125	5.150
101— 105	1	2.000	30.000	8,000	2.047
106— 110	2	4.000	28.000	22,200	5.681
111— 115	5	10.000	24.000	39,105	10.008
116— 120	2	4.000	14.000	15,812	4.047
121— 125	1	2.000	10.000	2,000	.512
126— 130	2	4.000	8.000	9,400	2.406
...— ...					
141— 145	1	2.000	4.000	13,500	3.455
...— ...					
156— 160	1	2.000	2.000	5,980	1.530
Totals	50	100.000		$ 390,745	100.000

Total sale value	$390,745
Total assessed value	352,375
Average assessment ratio on number basis	87.80
Average assessment ratio on value basis	89.68
Percentage deviation on number basis	23.69
Percentage deviation on value basis	21.03

TABLE 81

SAUK COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
56— 60	3	6.522	100.000	$22,000	8.675
61— 65	1	2.173	93.478	2,200	.868
66— 70	4	8.696	91.305	30,825	12.155
71— 75	2	4.348	82.609	2,050	.808
76— 80	4	8.696	78.261	27,325	10.775
81— 85	2	4.348	69.565	3,400	1.341
86— 90	9	19.565	65.217	42,300	16.681
91— 95	5	10.870	45.652	30,550	12.047
96— 100	6	13.043	34.782	30,450	12.008
101— 105	2	4.348	21.739	10,050	3.963
106— 110	5	10.870	17.391	40,900	16.128
111— 115	1	2.173	6.521	1,500	.592
116— 120	2	4.348	4.348	10,040	3.959
Totals	46	100.000		$ 253,590	100.000

Total sale value	$253,590
Total assessed value	223,715
Average assessment ratio on number basis	88.54
Average assessment ratio on value basis	88.44
Percentage deviation on number basis	14.17
Percentage deviation on value basis	15.25

TABLE 82

VERNON COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
41— 45	1	1.389	100.000	$ 5,600	1.777
..— ..					
51— 55	2	2.778	98.611	4,100	1.301
..— ..					
61— 65	5	6.944	95.833	18,500	5.870
66— 70	4	5.556	88.889	10,500	3.332
71— 75	10	13.889	83.333	51,450	16.326
76— 80	9	12.500	69.444	52,900	16.786
81— 85	9	12.500	56.944	40,260	12.775
86— 90	7	9.722	44.444	30,600	9.710
91— 95	4	5.555	34.722	35,200	11.170
96— 100	9	12.500	29.167	25,900	8.219
101— 105	4	5.555	16.667	15,100	4.792
106— 110	2	2.778	11.112	10,650	3.379
111— 115	1	1.389	8.334	9,000	2.856
116— 120	1	1.389	6.945	500	.159
121— 125	1	1.389	5.556	480	.152
...— ...					
131— 135	1	1.389	4.167	2,300	.730
136— 140	1	1.389	2.779	1,400	.444
...— ...					
156— 160	1	1.389	1.389	700	.222
Totals	72	100.000		$ 315,140	100.000

Total sale value	$315,140
Total assessed value	265,250
Average assessment ratio on number basis	86.06
Average assessment ratio on value basis	84.14
Percentage deviation on number basis	17.02
Percentage deviation on value basis	14.05

TABLE 83

WAUSHARA COUNTY, WISCONSIN, RURAL PROPERTY, 1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
71— 75	1	2.941	100.000	$11,000	10.062
76— 80	1	2.941	97.059	2,500	2.287
81— 85	2	5.882	94.118	13,000	11.891
86— 90	3	8.824	88.236	10,550	9.650
91— 95	1	2.941	79.412	1,000	.915
96— 100	3	8.824	76.471	11,000	10.062
101— 105	3	8.824	67.647	20,000	18.294
106— 110	3	8.824	58.823	14,750	13.492
111— 115	2	5.882	49.999	1,050	.960
116— 120	4	11.765	44.117	8,850	8.095
...— ...					
126— 130	3	8.824	32.352	2,450	2.241
...— ...					
136— 140	2	5.882	23.528	2,700	2.470
...— ...					
146— 150	1	2.941	17.646	2,500	2.287
151— 155	2	5.882	14.705	4,500	4.116
...— ...					
186— 190	2	5.882	8.823	1,475	1.349
...— ...					
196— 200	1	2.941	2.941	2,000	1.829
Totals	34	100.000		$ 109,325	100.000

Total sale value	$109,325
Total assessed value	114,350
Average assessment ratio on number basis	117.26
Average assessment ratio on value basis	104.37
Percentage deviation on number basis	20.12
Percentage deviation on value basis	17.01

Section C--Minnesota Tables

TABLE 84

BLUE EARTH COUNTY, MINNESOTA, RURAL PROPERTY, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
51— 55	1	1.471	100.000	$12,000	1.795
56— 60	3	4.411	98.529	35,300	5.280
61— 65	3	4.411	94.118	45,922	6.868
66— 70	3	4.411	89,707	35,100	5.250
71— 75	8	11.765	85.296	88,660	13.261
76— 80	8	11.765	73.531	84,090	12.577
81— 85	6	8.823	61.766	89,230	13.346
86— 90	9	13.235	52.943	64,850	9.699
91— 95	6	8.823	39.708	64,000	9.573
96— 100	8	11.765	30.885	53,622	8.020
101— 105	1	1.471	19.120	7,200	1.077
106— 110	3	4.411	17.649	41,600	6.222
111— 115	1	1.471	13.238	3,300	.494
...— ...					
121— 125	1	1.471	11.767	3,000	.449
126— 130	1	1.471	10.296	7,600	1.137
131— 135	2	2.941	8.825	7,800	1.167
...— ...					
141— 145	1	1.471	5.884	2,500	.374
146— 150	1	1.471	4.413	12,000	1.795
151— 155	1	1.471	2.942	7,800	1.167
...— ...					
166— 170	1	1.471	1.471	3,000	.449
Totals	68	100.000		$ 668,574	100.000

Total sale value	$668,574
Total assessed value	571,095
Average assessment ratio on number basis	90.13
Average assessment ratio on value basis	85.45
Percentage deviation on number basis	18.84
Percentage deviation on value basis	17.33

TABLE 85

OTTER TAIL COUNTY, MINNESOTA, RURAL PROPERTY, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	2	4.082	100.000	$20,000	5.320
36— 40	5	10.204	95.918	46,150	12.276
41— 45	1	2.041	85.714	6,600	1.755
..— ..					
51— 55	7	14.286	83.673	56,480	15.023
56— 60	2	4.082	69.387	12,800	3.405
61— 65	3	6.122	65.305	16,500	4.389
66— 70	3	6.122	59.183	23,000	6.118
71— 75	4	8.163	53.061	37,100	9.868
76— 80	5	10.204	44.898	44,200	11.757
81— 85	5	10.204	34.694	36,460	9.698
86— 90	3	6.123	24.490	21,100	5.612
91— 95	3	6.123	18.367	14,500	3.857
96— 100	2	4.081	12.244	11,360	3.022
101— 105	1	2.041	8.163	6,000	1.596
...— ...					
111— 115	1	2.041	6.122	10,000	2.660
116— 120	2	4.081	4.081	13,700	3.644
Totals	49	100.000		$ 375,950	100.000

Total sale value	$375,950
Total assessed value	259,953
Average assessment ratio on number basis	70.76
Average assessment ratio on value basis	68.90
Percentage deviation on number basis	25.86
Percentage deviation on value basis	26.79

TABLE 86

POLK COUNTY, MINNESOTA, RURAL PROPERTY, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
46— 50	2	3.846	100.000	$15,300	6.342
51— 55	1	1.923	96.154	1,400	.580
56— 60	1	1.923	94.231	16,000	6.632
61— 65	3	5.769	92.308	9,660	4.004
66— 70	3	5.769	86.539	20,700	8.580
71— 75	5	9.616	80.770	33,050	13.699
76— 80	3	5.769	71.154	6,400	2.653
81— 85	6	11.539	65.385	18,800	7.793
86— 90	3	5.769	53.846	5,600	2.321
91— 95	5	9.616	48.077	22,800	9.451
96— 100	3	5.769	38.461	22,300	9.243
101— 105	3	5.769	32.692	18,575	7.699
106— 110	5	9.616	26.923	19,000	7.875
111— 115	1	1.923	17.307	8,300	3.440
116— 120	3	5.769	15.384	12,100	5.015
121— 125	1	1.923	9.615	1,000	.415
126— 130	2	3.846	7.692	7,475	3.098
...— ...					
141— 145	1	1.923	3.846	1,600	.663
...— ...					
156— 160	1	1.923	1.923	1,200	.497
Totals	52	100.000		$ 241,260	100.000

Total sale value	$241,260
Total assessed value	207,468
Average assessment ratio on number basis	90.69
Average assessment ratio on value basis	86.43
Percentage deviation on number basis	20.69
Percentage deviation on value basis	21.68

TABLE 87

STEARNS COUNTY, MINNESOTA, RURAL PROPERTY, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
51— 55	1	1.316	100.000	$ 2,720	9.660
..— ..					
61— 65	3	3.947	98.684	16,600	4.030
66— 70	7	9.211	94.737	61,270	14.874
71— 75	4	5.263	85.526	14,225	3.453
76— 80	9	11.842	80.263	55,250	13.412
81— 85	8	10.526	68.421	39,000	9.468
86— 90	10	13.158	57.895	49,250	11.956
91— 95	8	10.526	44.737	61,400	14.905
96— 100	9	11.842	34.211	55,165	13.392
...— ...					
106— 110	4	5.263	22.369	12,700	3.083
111— 115	4	5.263	17.106	23,800	5.778
116— 120	6	7.895	11.843	13,050	3.168
121— 125	1	1.316	3.948	3,000	.728
126— 130	1	1.316	2.632	2,500	.607
...— ...					
136— 140	1	1.316	1.316	2,000	.486
Totals	76	100.000		$ 411,930	100.000

Total sale value	$411,930
Total assessed value	358,221
Average assessment ratio on number basis	90.30
Average assessment ratio on value basis	87.29
Percentage deviation on number basis	15.64
Percentage deviation on value basis	14.25

TABLE 88

WASHINGTON COUNTY, MINNESOTA, RURAL PROPERTY, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
36— 40	1	6.250	100.000	$ 3,000	4.304
41— 45	1	6.250	93.750	3,000	4.304
.. — ..					
51— 55	3	18.750	87.500	10,900	15.639
56— 60	1	6.250	68.750	5,250	7.532
61— 65	1	6.250	62.500	2,050	2.941
.. — ..					
71— 75	2	12.500	56.250	9,000	12.913
.. — ..					
86— 90	1	6.250	43.750	6,000	8.608
... — ...					
96— 100	1	6.250	37.500	13,200	18.938
101— 105	1	6.250	31.250	8,500	12.195
... — ...					
116— 120	2	12.500	25.000	6,000	8.608
... — ...					
156— 160	1	6.250	12.500	1,600	2.296
161— 165	1	6.250	6.250	1,200	1.722
Totals	16	100.000		$ 69,700	100.000

Total sale value	$69,700
Total assessed value	58,044
Average assessment ratio on number basis	84.56
Average assessment ratio on value basis	82.71
Percentage deviation on number basis	37.56
Percentage deviation on value basis	28.96

TABLE 89

WINONA COUNTY, MINNESOTA, RURAL PROPERTY, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	3.448	100.000	$ 3,000	1.125
..— ..					
31— 35	1	3.448	96.552	550	.206
..— ..					
46— 50	1	3.448	93.104	8,000	2.999
..— ..					
61— 65	2	6.898	89.656	24,000	8.998
66— 70	1	3.448	82.758	28,000	10.498
71— 75	3	10.345	79.310	17,750	6.655
76— 80	3	10.345	68.965	27,900	10.460
81— 85	7	24.138	58.620	73,500	27.556
86— 90	3	10.345	34.482	29,856	11.193
91— 95	3	10.345	24.137	25,375	9.513
...— ...					
101— 105	1	3.448	13.792	9,000	3.374
...— ...					
111— 115	1	3.448	10.344	11,600	4.349
...— ...					
121— 125	1	3.448	6.896	7,000	2.624
...— ...					
131— 135	1	3.448	3.448	1,200	.450
Totals	29	100.000		$ 266,731	100.000

Total sale value	$266,731
Total assessed value	217,008
Average assessment ratio on number basis	80.93
Average assessment ratio on value basis	81.37
Percentage deviation on number basis	18.76
Percentage deviation on value basis	14.07

TABLE 90

CROOKSTON, MINNESOTA, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
41— 45	1	2.703	100.000	$ 700	.945
46— 50	1	2.703	97.297	2,500	3.375
51— 55	3	8.108	94.594	5,800	7.830
56— 60	1	2.703	86.486	2,500	3.375
61— 65	3	8.108	83.783	10,600	14.310
66— 70	2	5.405	75.675	3,200	4.320
71— 75	1	2.703	70.270	6,000	8.100
76— 80	3	8.108	67.567	2,800	3.780
81— 85	1	2.703	59.459	2,200	2.970
86— 90	2	5.406	56.756	8,600	11.610
91— 95	3	8.108	51.350	5,700	7.695
96— 100	2	5.406	43.242	5,000	6.750
101— 105	2	5.405	37.836	1,650	2.227
...— ...					
111— 115	2	5.405	32.431	1,050	1.417
116— 120	2	5.405	27.026	1,500	2.025
121— 125	3	8.108	21.621	3,575	4.826
126— 130	2	5.405	13.513	1,200	1.620
...— ...					
136— 140	2	5.405	8.108	8,700	11.745
...— ...					
146— 150	1	2.703	2.703	800	1.080
Totals	37	100.000		$ 74,075	100.000

Total sale value	$74,075
Total assessed value	64,650
Average assessment ratio on number basis	91.65
Average assessment ratio on value basis	87.50
Percentage deviation on number basis	26.58
Percentage deviation on value basis	26.21

TABLE 91

FERGUS FALLS, MINNESOTA, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
51— 55	1	1.786	100.000	$ 275	.198
56— 60	4	7.143	98.214	17,050	12.245
61— 65	4	7.143	91.071	19,725	14.167
66— 70	3	5.357	83.928	8,400	6.033
71— 75	7	12.500	78.571	12,950	9.301
76— 80	9	16.071	66.071	17,175	12.335
81— 85	6	10.714	50.000	38,700	27.795
86— 90	5	8.929	39.286	6,400	4.596
91— 95	5	8.929	30.358	5,350	3.842
96— 100	2	3.571	21.429	1,600	1.149
101— 105	1	1.786	17.858	200	.144
106— 110	1	1.786	16.072	600	.431
111— 115	3	5.357	14.286	4,950	3.555
116— 120	1	1.786	8.929	1,710	1.228
121— 125	2	3.571	7.143	2,450	1.760
...— ...					
136— 140	1	1.786	3.572	700	.503
...— ...					
171— 175	1	1.786	1.786	1,000	.718
Totals	56	100.000		$ 139,235	100.000

Total sale value	$139,235
Total assessed value	108,630
Average assessment ratio on number basis	85.32
Average assessment ratio on value basis	78.64
Percentage deviation on number basis	18.79
Percentage deviation on value basis	15.36

TABLE 92

MANKATO, MINNESOTA, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.010	100.000	$ 400	.126
31— 35	1	1.010	98.990	1,400	.442
36— 40	4	4.040	97.980	6,950	2.196
41— 45	8	8.081	93.940	13,550	4.282
46— 50	1	1.010	85.859	1,560	.493
51— 55	5	5.051	84.849	22,750	7.189
56— 60	10	10.101	79.798	33,175	10.483
61— 65	4	4.041	69.697	17,025	5.380
66— 70	15	15.152	65.656	50,845	16.067
71— 75	3	3.030	50.504	13,000	4.108
76— 80	6	6.061	47.474	14,950	4.724
81— 85	3	3.030	41.413	8,100	2.560
86— 90	10	10.101	38.383	49,146	15.530
91— 95	4	4.041	28.282	43,200	13.651
96— 100	6	6.061	24.241	10,050	3.176
...— ...					
106— 110	2	2.020	18.180	3,615	1.142
111— 115	3	3.030	16.160	8,600	2.718
116— 120	4	4.040	13.130	6,100	1.928
121— 125	1	1.010	9.090	3,000	.948
126— 130	2	2.020	8.080	5,750	1.817
...— ...					
141— 145	1	1.010	6.060	725	.229
146— 150	1	1.010	5.050	120	.038
151— 155	2	2.020	4.040	1,850	.584
...— ...					
191— 195	1	1.010	2.020	500	.158
...— ...					
216— 220	1	1.010	1.010	100	.031
Totals	99	100.000		$ 316,461	100.000

Total sale value	$316,461
Total assessed value	243,170
Average assessment ratio on number basis	79.92
Average assessment ratio on value basis	77.30
Percentage deviation on number basis	30.99
Percentage deviation on value basis	23.14

TABLE 93

ST. CLOUD, MINNESOTA, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
21— 25	1	.746	100.000	$ 500	.187
26— 30	1	.746	99.254	500	.187
.. — ..					
36— 40	2	1.493	98.508	2,000	.748
41— 45	3	2.239	97.015	4,585	1.716
46— 50	10	7.463	94.776	15,975	5.977
51— 55	7	5.224	87.313	30,550	11.431
56— 60	18	13.433	82.089	36,825	13.779
61— 65	19	14.179	68.656	42,837	16.028
66— 70	12	8.955	54.477	27,254	10.198
71— 75	13	9.702	45.522	23,975	8.971
76— 80	6	4.478	35.820	11,715	4.383
81— 85	9	6.716	31.342	21,650	8.101
86— 90	5	3.731	24.626	9,700	3.630
91— 95	2	1.493	20.895	1,300	.486
96— 100	6	4.478	19.402	8,800	3.293
101— 105	4	2.985	14.924	12,100	4.528
106— 110	3	2.239	11.939	3,650	1.366
111— 115	3	2.239	9.700	6,400	2.395
116— 120	4	2.985	7.461	3,110	1.164
121— 125	1	.746	4.476	600	.225
126— 130	1	.746	3.730	2,000	.748
131— 135	1	.746	2.984	200	.075
.. — ..					
156— 160	1	.746	2.238	400	.150
.. — ..					
186— 190	1	.746	1.492	225	.084
.. — ..					
196— 200	1	.746	.746	400	.150
Totals	134	100.000		$ 267,251	100.000

Total sale value	$267,251
Total assessed value	189,803
Average assessment ratio on number basis	74.75
Average assessment ratio on value basis	70.88
Percentage deviation on number basis	26.27
Percentage deviation on value basis	21.54

TABLE 94

STILLWATER, MINNESOTA, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
46— 50	1	2.381	100.000	$ 100	.148
51— 55	1	2.381	97.619	3,000	4.452
56— 60	5	11.904	95.238	10,600	15.730
61— 65	7	16.666	83.334	14,125	20.962
66— 70	1	2.381	66.668	800	1.187
71— 75	2	4.762	64.287	2,000	2.968
76— 80	3	7.143	59.525	3,200	4.749
.. — ..					
86— 90	2	4.762	52.382	1,400	2.077
.. — ...					
96— 100	6	14.286	47.620	12,700	18.847
101— 105	1	2.381	33.334	1,560	2.315
106— 110	2	4.762	30.953	1,550	2.300
111— 115	1	2.381	26.191	900	1.336
116— 120	1	2.381	23.810	150	.223
121— 125	4	9.524	21.429	5,800	7.718
126— 130	1	2.381	11.905	900	1.336
131— 135	3	7.143	9.524	8,600	12.762
... — ...					
181— 185	1	2.381	2.381	600	.890
Totals	42	100.000		$ 67,385	100.000

Total sale value	$67,385
Total assessed value	59,420
Average assessment ratio on number basis	90.38
Average assessment ratio on value basis	88.18
Percentage deviation on number basis	28.05
Percentage deviation on value basis	29.10

TABLE 95

WINONA, MINNESOTA, 1926-1927

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
36— 40	1	2.273	100.000	$ 250	.222
41— 45	2	4.545	97.727	4,500	4.003
46— 50	3	6.818	93.182	7,400	6.583
51— 55	1	2.273	86.364	650	.578
56— 60	2	4.545	84.091	2,600	2.313
61— 65	8	18.182	79.546	28,250	25.130
66— 70	3	6.818	61.364	5,100	4.537
71— 75	6	13.637	54.546	27,700	24.641
76— 80	4	9.091	40.909	13,625	12.120
.. — ..					
86— 90	1	2.273	31.818	350	.311
91— 95	3	6.818	29.545	2,350	2.090
96— 100	3	6.818	22.727	9,000	8.006
101— 105	1	2.273	15.909	700	.622
106— 110	2	4.545	13.636	2,540	2.259
111— 115	1	2.273	9.091	200	.178
116— 120	2	4.545	6.818	1,000	.890
... — ...					
176— 180	1	2.273	2.273	6,200	5.515
Totals	44	100.000		$ 112,415	100.000

Total sale value	$112,415
Total assessed value	86,940
Average assessment ratio on number basis	77.32
Average assessment ratio on value basis	77.19
Percentage deviation on number basis	25.12
Percentage deviation on value basis	23.25

Section D--Nebraska Tables

TABLE 96

BOX BUTTE COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	1.493	100.000	$ 5,000	1.016
21— 25	3	4.477	98.507	51,020	10.365
26— 30	15	22.388	94.030	125,340	25.465
31— 35	9	13.432	71.642	81,410	16.540
36— 40	8	11.940	58,210	69,020	14.022
41— 45	8	11.940	46.270	51,920	10.548
46— 50	5	7.462	34.330	27,240	5.534
51— 55	7	10.448	26.868	44,150	8.970
56— 60	2	2.985	16.420	13,150	2.672
61— 65	1	1.493	13.435	3,800	.772
66— 70	1	1.493	11.942	1,800	.366
.. — ..					
76— 80	2	2.985	10.449	9,152	1.859
81— 85	2	2.985	7.464	5,250	1.067
86— 90	1	1.493	4.479	1,000	.203
.. — ...					
96— 100	1	1.493	2.986	1,250	.254
... — ...					
121— 125	1	1.493	1.493	1,710	.347
Totals	67	100.000		$ 492,212	100.000

Total sale value	$492,212
Total assessed value	187,220
Average assessment ratio on number basis	43.90
Average assessment ratio on value number	37.90
Percentage deviation on number basis	32.60
Percentage deviation on value basis	26.81

TABLE 97

CHERRY COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	1	1.176	100.000	$ 1,500	.263
..— ..					
16— 20	1	1.176	98.824	9,360	1.642
21— 25	1	1.176	97.648	12,000	2.105
26— 30	1	1.176	96.472	800	.140
31— 35	3	3.529	95.296	95,661	16.779
36— 40	4	4.706	91.767	31,930	5.600
41— 45	4	4.706	87.061	24,250	4.253
46— 50	2	2.353	82.355	74,850	13.129
51— 55	7	8.235	80.002	26,975	4.731
56— 60	7	8.235	71.767	30,551	5.359
61— 65	12	14.117	63.532	127,230	22.316
66— 70	4	4.706	49.415	22,082	3.873
71— 75	4	4.706	44.709	22,450	3.938
76— 80	1	1.176	40.003	10,550	1.850
81— 85	4	4.706	38.827	28,390	4.980
86— 90	2	2.353	34.121	5,750	1.009
91— 95	4	4.706	31.768	8,425	1.478
96— 100	10	11.767	27.062	15,470	2.713
101— 105	2	2.353	15.295	2,329	.409
106— 110	1	1.176	12.942	3,000	.526
111— 115	1	1.176	11.766	105	.019
116— 120	1	1.176	10.590	4,351	.763
121— 125	2	2.353	9.414	6,200	1.088
126— 130	1	1.177	7.061	1,920	.337
...— ...					
136— 140	1	1.177	5.884	1,200	.210
...— ...					
156— 160	2	2.353	4.707	1,200	.210
...— ...					
221— 225	1	1.177	2.354	1,000	.175
...— ...					
236— 240	1	1.177	1.177	600	.105
Totals	85	100.000		$ 570,129	100.000

Total sale value	$570,129
Total assessed value	330,325
Average assessment ratio on number basis	76.06
Average assessment ratio on value basis	57.26
Percentage deviation on number basis	36.69
Percentage deviation on value basis	30.42

TABLE 98

CHEYENNE COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	.971	100.000	$ 18,000	1.957
..— ..					
36— 40	1	.971	99.029	10,200	1.109
41— 45	3	2.913	98.058	48,000	5.220
46— 50	10	9.709	95.145	108,740	11.825
51— 55	8	7.767	85.436	80,200	8.721
56— 60	14	13.592	77.669	142,700	15.517
61— 65	11	10.679	64.077	113,100	12.299
66— 70	13	12.621	53.398	126,350	13.739
71— 75	13	12.621	40.777	100,637	10.943
76— 80	7	6.796	28.156	56,700	6.166
81— 85	4	3.883	21.360	25,500	2.773
86— 90	7	6.796	17.477	37,480	4.076
..— ...					
96— 100	1	.971	10.681	9,600	1.044
101— 105	1	.971	9.710	4,000	.435
106— 110	1	.971	8.739	8,000	.870
111— 115	1	.971	7.768	1,600	.174
116— 120	1	.971	6.797	10,000	1.087
...— ...					
126— 130	1	.971	5.826	3,250	.353
131— 135	2	1.942	4.855	5,100	.555
136— 140	1	.971	2.913	3,000	.326
...— ...					
151— 155	2	1.942	1.942	7,450	.810
Totals	103	100.000		$ 919,607	100.000

Total sale value	$919,607
Total assessed value	596,217
Average assessment ratio on number basis	70.82
Average assessment ratio on value basis	64.77
Percentage deviation on number basis	23.21
Percentage deviation on value basis	20.75

TABLE 99

CUSTER COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	1.042	100.000	$ 9,725	1.132
21— 25	2	2.083	98.958	6,100	.710
26— 30	5	5.208	96.875	64,358	7.492
31— 35	4	4.166	91.667	40,160	4.675
36— 40	7	7.292	87.501	80,400	9.359
41— 45	13	13.542	80.209	119,460	13.906
46— 50	14	14.583	66.667	162,100	18.869
51— 55	6	6.250	52.084	55,280	6.435
56— 60	11	11.458	45,834	99,570	11.591
61— 65	7	7.292	34.376	61,425	7.150
66— 70	10	10.417	27.084	82,024	9.548
71— 75	7	7.292	16.667	30,100	3.504
76— 80	3	3.125	9.375	12,635	1.471
81— 85	2	2.083	6.250	14,424	1.679
.. — ..					
91— 95	2	2.083	4.167	14,500	1.688
... — ...					
121— 125	1	1.042	2.084	800	.093
126— 130	1	1.042	1.042	6,000	.698
Totals	96	100.000		$ 859,061	100.000

Total sale value	$859,061
Total assessed value	441,812
Average assessment ratio on number basis	54.77
Average assessment ratio on value basis	51.41
Percentage deviation on number basis	26.51
Percentage deviation on value basis	24.35

TABLE 100

KEITH COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	1.786	100.000	$ 8,000	1.406
16— 20	1	1.786	98.214	22,860	4.018
21— 25	4	7.143	96.428	59,595	10.475
26— 30	6	10.713	89.285	78,197	13.745
31— 35	2	3.571	78.572	38,400	6.750
36— 40	8	14.285	75.001	117,046	20.574
41— 45	9	16.071	60.716	66,832	11.747
46— 50	10	17.857	44.645	73,005	12.832
51— 55	4	7.143	26.788	76,840	13.506
56— 60	2	3.571	19.645	8,560	1.505
61— 65	1	1.786	16.074	3,000	.527
66— 70	1	1.786	14.288	3,300	.580
.. — ..					
76— 80	1	1.786	12.502	800	.141
81— 85	1	1.786	10.716	9,200	1.617
86— 90	1	1.786	8.930	700	.123
... — ...					
106— 110	1	1.786	7.144	577	.102
... — ...					
126— 130	1	1.786	5.358	480	.084
131— 135	1	1.786	3.572	1,400	.246
... — ...					
186— 190	1	1.786	1.786	125	.022
Totals	56	100.000		$ 568,917	100.000

Total sale value	$568,917
Total assessed value	222,630
Average assessment ratio on number basis	49.88
Average assessment ratio on value basis	39.32
Percentage deviation on number basis	37.01
Percentage deviation on value basis	26.40

TABLE 101

PERKINS COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	3	3.448	100.000	$ 39,200	4.816
21— 25	1	1.149	96.552	2,400	.295
26— 30	6	6.897	95.403	46,550	5.719
31— 35	22	25.289	88.506	238,525	29.305
36— 40	18	20.690	63.217	168,735	20.730
41— 45	18	20.690	42.527	144,942	17.807
46— 50	10	11.494	21.837	145,200	17.839
51— 55	2	2.299	10.343	10,600	1.302
56— 60	1	1.149	8.044	4,000	.491
.. — ..					
71— 75	3	3.448	6.895	7,650	.940
76— 80	1	1.149	3.447	2,750	.338
... — ...					
101— 105	1	1.149	2.298	2,400	.295
... — ...					
136— 140	1	1.149	1.149	1,000	.123
Totals	87	100.000		$ 813,952	100.000

Total sale value	$813,952
Total assessed value	316,205
Average assessment ratio on number basis	41.51
Average assessment ratio on value basis	38.70
Percentage deviation on number basis	23.27
Percentage deviation on value basis	17.93

TABLE 102

ANTELOPE COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
41— 45	2	4.082	100.000	$ 66,000	11.603
46— 50	3	6.122	95.918	28,000	4.921
51— 55	8	16.327	89.796	111,600	19.615
56— 60	6	12.245	73.469	68,600	12.057
61— 65	5	10.204	61.224	69,800	12.268
66— 70	2	4.082	51.020	22,000	3.867
71— 75	2	4.082	46.938	18,926	3.327
76— 80	8	16.327	42.856	88,611	15.574
81— 85	2	4.082	26.529	14,380	2.527
86— 90	3	6.121	22.447	22,000	3.867
91— 95	1	2.041	16.326	4,650	.817
96— 100	3	6.121	14.285	33,950	5.967
...— ...					
136— 140	1	2.041	8.164	12,874	2.263
...— ...					
146— 150	1	2.041	6.123	2,400	.422
151— 155	1	2.041	4.082	3,750	.659
...— ...					
186— 190	1	2.041	2.041	1,400	.246
Totals	49	100.000		$ 568,941	100.000

Total sale value	$568,941
Total assessed value	380,342
Average assessment ratio on number basis	74.84
Average assessment ratio on value basis	67.00
Percentage deviation on number basis	27.07
Percentage deviation on value basis	24.00

TABLE 103

BUFFALO COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
36— 40	4	5.128	100.000	$ 25,600	3.381
41— 45	9	11.539	94.872	75,600	9.984
46— 50	4	5.128	83.333	40,500	5.348
51— 55	13	16.667	78.205	145,850	19.261
56— 60	14	17.949	61.538	191,347	25.270
61— 65	6	7.693	43.589	62,700	8.280
66— 70	8	10.256	35.896	57,600	7.607
71— 75	5	6.410	25.640	34,400	4.543
76— 80	5	6.410	19.230	39,400	5.203
81— 85	5	6.410	12.820	43,130	5.696
86— 90	1	1.282	6.410	3,600	.475
91— 95	2	2.564	5.128	28,160	3.719
96— 100	1	1.282	2.564	5,737	.758
... — ...					
121— 125	1	1.282	1.282	3,600	.475
Totals	78	100.000		$ 757,224	100.000

Total sale value	$757,224
Total assessed value	460,232
Average assessment ratio on number basis	61.78
Average assessment ratio on value basis	60.71
Percentage deviation on number basis	20.18
Percentage deviation on value basis	17.74

TABLE 104

FURNAS COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.923	100.000	$17,000	3.674
31— 35	4	7.692	98.077	71,000	15.343
36— 40	4	7.692	90.385	33,300	7.196
41— 45	3	5.769	82.693	19,400	4.192
46— 50	5	9.616	76.924	57,000	12.318
51— 55	3	5.769	67.308	33,800	7.304
56— 60	7	13.462	61.539	66,400	14.349
61— 65	7	13.462	48.077	59,210	12.795
66— 70	8	15.385	34.615	53,580	11.579
71— 75	2	3.846	19.230	11,800	2.550
76— 80	2	3.846	15.384	11,450	2.475
81— 85	3	5.769	11.538	18,789	4.060
86— 90	2	3.846	5.769	7,520	1.625
91— 95	1	1.923	1.923	2,500	.540
Totals	52	100.000		$ 462,749	100.000

Total sale value	$462,749
Total assessed value	249,149
Average assessment ratio on number basis	58.67
Average assessment ratio on value basis	53.76
Percentage deviation on number basis	22.17
Percentage deviation on value basis	24.13

TABLE 105

GAGE COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
36— 40	1	1.724	100.000	$ 12,000	1.268
41— 45	1	1.724	98.276	26,900	2.842
46— 50	3	5.173	96.552	66,450	7.021
51— 55	4	6.897	91.379	74,036	7.822
56— 60	11	18.966	84.482	216,261	22.849
61— 65	9	15.517	65.516	118,200	12.489
66— 70	9	15.517	49.999	135,153	14.280
71— 75	8	13.793	34.482	151,608	16.018
76— 80	5	8.621	20.689	76,500	8.083
81— 85	2	3.448	12.068	21,170	2.237
86— 90	1	1.724	8.620	15,000	1.585
91— 95	1	1.724	6.896	6,480	.684
96— 100	1	1.724	5.172	12,200	1.289
101— 105	1	1.724	3.448	6,000	.634
... — ...					
131— 135	1	1.724	1.724	8,500	.899
Totals	58	100.000		$ 946,458	100.000

Total sale value	$946,458
Total assessed value	613,050
Average assessment ratio on number basis	67.40
Average assessment ratio on value basis	65.05
Percentage deviation on number basis	15.99
Percentage deviation on value basis	15.30

TABLE 106

LINCOLN COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	1	.962	100.000	$ 8,000	1.143
21— 25	5	4.808	99.038	45,000	6.431
26— 30	13	12.500	94.230	206,980	29.581
31— 35	5	4.808	81.730	22,885	3.271
36— 40	11	10.576	76.922	90,950	12.999
41— 45	12	11.538	66.346	80,996	11.576
46— 50.	12	11.538	54.808	80,022	11.436
51— 55	10	9.615	43.270	32,895	4.701
56— 60	3	2.885	33.655	37,500	5.359
61— 65	8	7.692	30.770	40,835	5.836
66— 70	6	5.769	23.078	24,710	3.532
.. — ..					
76— 80	5	4.808	17.309	7,800	1.115
81— 85	2	1.923	12.501	2,000	.286
86— 90	4	3.846	10.578	7,400	1.058
91— 95	3	2.884	6.732	6,120	.875
96— 100	1	.962	3.848	1,600	.229
101— 105	1	.962	2.886	1,200	.172
106— 110	1	.962	1.924	2,560	.366
... — ...					
141— 145	1	.962	.962	240	.034
Totals	104	100.000		$ 699,693	100.000

Total sale value	$699,693
Total assessed value	291,408
Average assessment ratio on number basis	52.18
Average assessment ratio on value basis	41.83
Percentage deviation on number basis	33.42
Percentage deviation on value basis	30.41

TABLE 107

RED WILLOW COUNTY, NEBRASKA, RURAL PROPERTY, 1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	4	8.163	100.000	$27,200	5.963
36— 40	6	12.245	91.837	57,000	12.496
41— 45	11	22.449	79.592	113,912	24.972
46— 50	6	12.245	57.143	41,600	9.120
51— 55	5	10.203	44.898	41,398	9.075
56— 60	6	12.245	34.695	60,800	13.329
61— 65	6	12.245	22.450	88,350	19.368
66— 70	1	2.041	10.205	5,000	1.096
71— 75	1	2.041	8.164	9,000	1.973
76— 80	1	2.041	6.123	8,000	1.753
.. ..					
91— 95	1	2.041	4.082	2,100	.460
... ...					
106— 110	1	2.041	2.041	1,800	.395
Totals	49	100.000		$ 456,160	100.000

Total sale value	$456,160
Total assessed value	232,135
Average assessment ratio on number basis	51.67
Average assessment ratio on value basis	50.98
Percentage deviation on number basis	21.66
Percentage deviation on value basis	19.46

TABLE 108

FREMONT, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	.621	100.000	$ 600	.122
21— 25	2	1.242	99.379	3,300	.672
26— 30	3	1.863	98.137	7,166	1.460
31— 35	12	7.454	96.274	18,025	3.671
36— 40	16	9.938	88.820	50,950	10.378
41— 45	15	9.317	78.882	48,875	9.955
46— 50	28	17.391	69.565	108,386	22.077
51— 55	20	12.422	52.174	74,700	15.215
56— 60	24	14.907	39.752	71,770	14.618
61— 65	6	3.727	24.845	14,395	2.932
66— 70	14	8.696	21.118	38,550	7.852
71— 75	7	4.348	12.422	25,875	5.270
76— 80	7	4.348	8.074	17,050	3.473
86— 90	3	1.863	3.726	4,265	.869
111— 115	1	.621	1.863	550	.112
126— 130	2	1.242	1.242	6,500	1.324
Totals	161	100.000		$ 490,957	100.000

Total sale value	$490,957
Total assessed value	263,625
Average assessment ratio on number basis	53.47
Average assessment ratio on value basis	53.48
Percentage deviation on number basis	23.00
Percentage deviation on value basis	19.86

TABLE 109

GRAND ISLAND, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
1— 5	1	.585	100.000	$ 950	.165
6— 10	1	.585	99.415	2,000	.347
..— ..					
16— 20	4	2.339	98.830	7,785	1.353
21— 25	7	4.094	96.491	21,800	3.789
26— 30	20	11.695	92.397	112,520	19.558
31— 35	25	14.619	80.702	78,950	13.723
36— 40	28	16.374	66.083	116,960	20.330
41— 45	21	12.281	49.709	68,080	11.834
46— 50	8	4.678	37.428	25,750	4.476
51— 55	10	5.847	32.750	24,940	4.335
56— 60	11	6.433	26.903	21,695	3.771
61— 65	7	4.094	20.470	9,850	1.712
66— 70	6	3.509	16.376	4,855	.844
71— 75	11	6.433	12.867	24,415	4.244
76— 80	1	.585	6.434	1,800	.313
81— 85	4	2.339	5.849	5,150	.895
86— 90	1	.585	3.510	36,000	6.258
..— ...					
96— 100	1	.585	2.925	1,000	.174
...— ...					
106— 110	1	.585	2.340	850	.148
111— 115	1	.585	1.755	7,808	1.357
...— ...					
131— 135	1	.585	1.170	1,500	.261
...— ...					
156— 160	1	.585	.585	650	.113
Totals	171	100.000		$ 575,308	100.000

Total sale value	$575,308
Total assessed value	255,345
Average assessment ratio on number basis	46.25
Average assessment ratio on value basis	44.23
Percentage deviation on number basis	34.21
Percentage deviation on value basis	33.82

TABLE 110

HASTINGS, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	4	2.051	100.000	$ 10,200	1.414
11— 15	1	.513	97.949	800	.111
16— 20	1	.513	97.436	7,000	.970
21— 25	5	2.564	96.923	38,250	5.304
26— 30	10	5.128	94.359	18,635	2.584
31— 35	14	7.179	89.231	52,650	7.300
36— 40	16	8.205	82.052	41,250	5.720
41— 45	25	12.821	73.847	97,650	13.540
46— 50	28	14.359	61.026	144,070	19.976
51— 55	28	14.359	46.667	110,250	15.287
56— 60	16	8.205	32.308	61,750	8.562
61— 65	12	6.154	24.103	32,637	4.525
66— 70	9	4.615	17.949	28,090	3.895
71— 75	3	1.538	13.334	7,400	1.026
76— 80	6	3.077	11.796	16,900	2.343
81— 85	2	1.026	8.719	15,800	2.191
86— 90	1	.513	7.693	3,100	.430
91— 95	3	1.538	7.180	8,400	1.165
...— ...					
101— 105	3	1.538	5.642	5,100	.707
106— 110	1	.513	4.104	5,250	.728
...— ...					
116— 120	1	.513	3.591	4,800	.666
121— 125	2	1.026	3.078	2,050	.284
...— ...					
141— 145	1	.513	2.052	3,750	.520
...— ...					
171— 175	1	.513	1.539	1,400	.194
...— ...					
196— 200	1	.513	1.026	2,025	.281
201— 205	1	.513	.513	2,000	.277
Totals	195	100.000		$ 721,207	100.000

Total sale value	$721,207
Total assessed value	370,590
Average assessment ratio on number basis	53.56
Average assessment ratio on value basis	51.51
Percentage deviation on number basis	31.39
Percentage deviation on value basis	27.49

TABLE 111

LINCOLN, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
1— 5	1	.147	100.000	$ 3,750	.102
6— 10	5	.734	99.853	18,800	.513
11— 15	2	.294	99.119	3,000	.081
16— 20	10	1.468	98.825	35,885	.979
21— 25	11	1.615	97.357	81,610	2.227
26— 30	14	2.055	95.742	43,355	1.183
31— 35	16	2.349	93.687	106,517	2.907
36— 40	23	3.377	91.338	86,916	2.372
41— 45	54	7.930	87.961	260,160	7.099
46— 50	56	8.223	80.031	245,417	6.697
51— 55	68	9.985	71.808	408,745	11.154
56— 60	89	13.069	61.823	615,669	16.800
61— 65	73	10.720	48.754	403,100	11.000
66— 70	73	10.720	38.034	467,025	12.743
71— 75	58	8.517	27.314	234,635	6.403
76— 80	41	6.021	18.797	196,375	5.359
81— 85	23	3.377	12.776	112,175	3.061
86— 90	24	3.524	9.399	139,725	3.813
91— 95	11	1.615	5.875	95,589	2.608
96— 100	12	1.762	4.260	45,360	1.238
101— 105	1	.147	2.498	14,000	.382
106— 110	3	.441	2.351	15,850	.433
111— 115	2	.294	1.910	8,525	.233
... — ...	.				
126— 130	3	.441	1.616	6,850	.187
131— 135	1	.147	1.175	1,025	.028
136— 140	4	.587	1.028	7,660	.209
141— 145	1	.147	.441	1,700	.046
... — ...					
161— 165	1	.147	.294	3,237	.088
... — ...					
216— 220	1	.147	.147	2,000	.055
Totals	681	100.000		$ 3,664,655	100.000

Total sale value	$3,664,655
Total assessed value	2,228,810
Average assessment ratio on number basis	60.99
Average assessment ratio on value basis	60.86
Percentage deviation on number basis	25.10
Percentage deviation on value basis	22.54

TABLE 112

BEATRICE, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	1	.847	100.000	$ 1,500	.376
16— 20	5	4.237	99.153	11,900	2.984
21— 25	5	4.237	94.916	19,950	5.003
26— 30	6	5.085	90.679	15,800	3.962
31— 35	6	5.085	85.594	23,100	5.793
36— 40	11	9.322	80.509	18,750	4.702
41— 45	15	12.712	71.187	46,550	11.673
46— 50	22	18.644	58.475	89,650	22.480
51— 55	12	10.169	39.831	49,512	12.416
56— 60	14	11.865	29.662	66,275	16.620
61— 65	6	5.085	17.797	16,000	4.012
66— 70	4	3.390	12.712	15,591	3.910
..— ..					
76— 80	4	3.390	9.322	13,300	3.335
81— 85	1	.847	5.932	800	.201
86— 90	2	1.695	5.085	2,800	.702
91— 95	2	1.695	3.390	4,600	1.154
96— 100	2	1.695	1.695	2,700	.677
Totals	118	100.000		$ 398,778	100.000

Total sale value	$398,778
Total assessed value	195,990
Average assessment ratio on number basis	48.72
Average assessment ratio on value basis	48.86
Percentage deviation on number basis	26.48
Percentage deviation on value basis	22.53

TABLE 113

McCOOK, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
10— 15	2	3.030	100.000	$ 1,192	.572
16— 20	3	4.545	96.970	5,200	2.495
21— 25	5	7.576	92.425	13,600	6.527
26— 30	9	13.637	84.859	35,212	16.898
31— 35	14	21.212	71.212	55,775	26.766
36— 40	10	15.152	50.000	38.475	18.464
41— 45	14	21.212	34.848	33,995	16.314
46— 50	6	9.091	13.636	17,232	8.269
.. — ..					
56— 60	1	1.515	4.545	5,000	2.399
.. — ..					
66— 70	1	1.515	3.030	1,600	.768
.. — ..					
76— 80	1	1.515	1.515	1,100	.528
Totals	66	100.000		$ 208,381	100.000

Total sale value	$208,381
Total assessed value	75,025
Average assessment ratio on number basis	36.11
Average assessment ratio on value basis	35.91
Percentage deviation on number basis	23.71
Percentage deviation on value basis	19.72

TABLE 114

NORTH PLATTE, NEBRASKA, 1927-1928

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
10— 15	2	2.299	100.000	$ 2,650	.867
16— 20	4	4.598	97.701	7,450	2.438
21— 25	12	13.793	93.103	48,915	16.006
26— 30	14	16.092	79.310	63,269	20.703
31— 35	15	17.241	63.218	54,758	17.918
36— 40	13	14.943	45.977	51,400	16.820
41— 45	11	12.644	31.034	33,425	10.938
46— 50	7	8.046	18.390	26,750	8.754
51— 55	2	2.299	10.344	5,300	1.734
56— 60	1	1.149	8.045	1,330	.435
61— 65	3	3.448	6.896	5,831	1.908
66— 70	3	3.448	3.448	4,521	1.479
Totals	87	100.000		$ 305,599	100.000

Total sale value	$ 305,599
Total assessed value	106,615
Average assessment ratio on number basis	35.87
Average assessment ratio on value basis	34.62
Percentage deviation on number basis	27.24
Percentage deviation on value basis	23.77

Section E--Indiana Tables

TABLE 115

FRANKLIN, EDINBURG, AND GREENWOOD, JOHNSON COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
31— 35	1	.763	100.000	$ 400	.123
36— 40	3	2.290	99.237	4,700	1.442
41— 45	7	5.343	96.947	14,222	4.363
46— 50	2	1.527	91.604	5,150	1.580
51— 55	5	3.817	90.077	26,500	8.129
56— 60	10	7.633	86.260	22,125	6.787
61— 65	11	8.397	78.627	25,750	7.899
66— 70	11	8.397	70.230	20,410	6.261
71— 75	10	7.634	61.833	17,580	5.393
76— 80	10	7.634	54.190	55,215	16.936
81— 85	5	3.817	46.565	10,700	3.282
86— 90	8	6.107	42.748	11,150	3.420
91— 95	5	3.817	36.641	9,464	2.903
96— 100	11	8.307	32.824	42,300	12.976
101— 105	3	2.290	24.427	10,700	3.282
106— 110	7	5.344	22.137	15,075	4.624
111— 115	6	4.580	16.793	10,886	3.339
116— 120	1	.763	12.213	4,000	1.227
121— 125	3	2.290	11.450	6,733	2.065
126— 130	2	1.529	9.160	1,800	.552
131— 135	1	.763	7.631	750	.230
136— 140	3	2.290	6.868	5,422	1.663
141— 145	1	.763	4.578	2,000	.614
...— ...					
151— 155	1	.763	3.815	325	.100
...— ...					
181— 185	1	.763	3.052	500	.153
186— 190	1	.763	2.289	1,600	.491
...— ...					
211— 215	1	.763	1.526	140	.043
...— ...					
221— 225	1	.763	.763	400	.123
Totals	131	100.000		$ 325,997	100.000

Total sale value	$325,997
Total assessed value	264,380
Average assessment ratio on value basis	81.04
Average assessment ratio on number basis	85.02
Percentage deviation on value basis	24.42
Percentage deviation on number basis	29.12

TABLE 116

SHELBYVILLE AND MORRISTOWN, SHELBY COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
16— 20	2	2.151	100.000	$ 6,650	2.482
..— ..					
36— 40	1	1.075	97.849	3,000	1.120
41— 45	2	2.151	96.774	6,300	2.351
46— 50	7	7.527	94.623	17,670	6.594
51— 55	9	9.677	87.096	34,600	12.912
56— 60	7	7.527	77.419	13,343	4.979
61— 65	8	8.602	69.892	21,525	8.033
66— 70	4	4.301	61.290	12,750	4.758
71— 75	13	13.978	56.989	47,812	17.843
76— 80	9	9.677	43.011	23,376	8.723
81— 85	4	4.301	33.334	8,700	3.247
86— 90	5	5.376	29.033	13,215	4.932
91— 95	1	1.075	23.657	900	.336
96— 100	6	6.452	22.582	18,300	6.828
101— 105	1	1.075	16.130	800	.299
106— 110	2	2.151	15.055	11,200	4.180
111— 115	2	2.151	12.904	5,587	2.085
116— 120	4	4.301	10.753	11,938	4.455
121— 125	2	2.151	6.452	2,600	.970
...— ...					
131— 135	2	2.151	4.301	7,250	2.705
...— ...					
161— 165	1	1.075	2.150	300	.112
166— 170	1	1.075	1.075	150	.056
Totals	93	100.000		$ 267,966	100.000

Total sale value	$267,966
Total assessed value	199,730
Average assessment ratio on value basis	74.45
Average assessment ratio on number basis	76.55
Percentage deviation on value basis	25.16
Percentage deviation on number basis	26.78

TABLE 117

HUNTINGTON, HUNTINGTON COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	1.020	100.000	$ 200	.049
31— 35	2	2.041	98.980	4,800	1.179
36— 40	4	4.082	96.939	3,335	.819
41— 45	2	2.041	92.857	27,800	6.827
46— 50	4	4.082	90.816	6,650	1.633
51— 55	3	3.061	86.734	8,450	2.075
56— 60	8	8.163	83.673	37,375	9.178
61— 65	7	7.143	75.510	57,560	14.135
66— 70	6	6.122	68.367	11,275	2.769
71— 75	7	7.143	62.245	16,400	4.027
76— 80	4	4.082	55.102	11,300	2.775
81— 85	7	7.143	51.020	21,800	5.354
86— 90	7	7.143	43.877	18,100	4.445
91— 95	6	6.122	36.734	70,200	17.239
96— 100	8	8.163	30.612	38,400	9.430
101— 105	2	2.041	22.449	43,350	10.646
106— 110	1	1.021	20.408	2,400	.589
...— ...					
116— 120	7	7.143	19.387	8,970	2.203
121— 125	1	1.020	12.244	810	.199
126— 130	2	2.041	11.224	210	.052
131— 135	1	1.020	9.183	2,000	.491
...— ...					
146— 150	2	2.041	8.163	3,900	.958
...— ...					
176— 180	3	3.061	6.122	9,150	2.247
...— ...					
191— 195	2	2.041	3.061	2,700	.663
196— 200	1	1.020	1.020	100	.018
Totals	98	100.000		$ 407,235	100.000

Total sale value	$407,235
Total assessed value	337,650
Average assessment ratio on value basis	82.28
Average assessment ratio on number basis	85.96
Percentage deviation on value basis	25.91
Percentage deviation on number basis	31.53

TABLE 118

NORTH JUDSON, KNOX, AND HAMLET, STARKE COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	3.226	100.000	$ 200	.547
16— 20	1	3.226	96.774	375	1.026
..— ..					
26— 30	1	3.226	93.548	1,000	2.736
31— 35	1	3.226	90.322	1,500	4.104
36— 40	3	9.677	87.096	5,750	15.732
..— ..					
46— 50	3	9.677	77.419	5,000	13.680
51— 55	2	6.452	67.742	3,900	10.670
56— 60	2	6.452	61.290	1,750	4.788
61— 65	1	3.226	54.838	700	1.915
66— 70	4	12.903	51.612	3,450	9.439
71— 75	1	3.226	38.709	700	1.915
76— 80	2	6.451	35.483	3,550	9.713
81— 85	3	9.677	29.032	2,675	7.319
86— 90	1	3.226	19.355	2,500	6.840
..— ...					
96— 100	2	6.451	16.129	2,500	6.840
...— ...					
116— 120	1	3.226	9.678	800	2.189
...— ...					
131— 135	1	3.226	6.452	150	.410
...— ...					
146— 150	1	3.226	3.226	50	.137
Totals	31	100.000		$ 36,550	100.000

Total transfers	31
Total sale value	$36,550
Total assessed value	22,650
Average assessment ratio on value basis	62.08
Average assessment ratio on number basis	66.71
Percentage deviation on value basis	31.33
Percentage deviation on number basis	35.36

TABLE 119

MARION, GRANT COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
6— 10	2	1.612	100.000	$ 1,050	.253
11— 15	1	.807	98.388	420	.101
16— 20	1	.807	97.581	600	.145
21— 25	2	1.612	96.774	1,850	.446
26— 30	3	2.419	95.162	3,125	.753
31— 35	6	4.839	92.743	14,680	3.538
36— 40	6	4.839	87.904	12,200	2.941
41— 45	4	3.226	83.065	7,450	1.796
46— 50	8	6.452	79.839	7,980	1.923
51— 55	11	8.871	73.387	62,550	15.076
56— 60	12	9.677	64.516	20,000	4.821
61— 65	11	8.871	54.839	58,140	14.013
66— 70	6	4.839	45.968	23,450	5.652
71— 75	8	6.452	41.129	21,195	5.108
76— 80	6	4.839	34.677	11,200	2.699
81— 85	3	2.419	29.838	12,900	3.109
86— 90	2	1.612	27.419	6,265	1.510
91— 95	5	4.032	25.807	17,680	4.261
96— 100	6	4.839	21.775	103,550	24.958
101— 105	2	1.612	16.936	2,225	.536
106— 110	4	3.226	15.324	3,800	.916
111— 115	1	.807	12.098	850	.205
116— 120	4	3.226	11.291	6,500	1.567
121— 125	1	.807	8.065	2,000	.482
126— 130	2	1.612	7.258	1,800	.434
131— 135	1	.807	5.646	5,500	1.326
136— 140	1	.807	4.839	130	.031
141— 145	1	.807	4.032	250	.060
146— 150	1	.807	3.225	1,575	.380
...— ...					
176— 180	2	1.612	2.418	3,650	.880
...— ...					
191— 195	1	.806	.806	333	.080
Totals	124	100.000		$ 414,898	100.000

Total sale value	$414,898
Total assessed value	309,970
Average assessment ratio on value basis	74.92
Average assessment ratio on number basis	70.82
Percentage deviation on value basis	28.94
Percentage deviation on number basis	37.15

TABLE 120

KOKOMO, HOWARD COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
11— 15	1	.641	100.000	$ 1,000	.300
16— 20	1	.641	99.359	350	.105
21— 25	3	1.923	98.718	550	.165
26— 30	3	1.923	96.795	8,950	2.687
.. — ..					
36— 40	9	5.770	94.872	11,300	3.392
41— 45	6	3.846	89.102	11,250	3.377
46— 50	20	12.821	85.256	51,075	15.328
51— 55	4	2.564	72.435	11,050	3.318
46— 60	14	8.975	69.871	29,244	8.778
61— 65	12	7.692	60.896	49,440	14.840
66— 70	18	11.539	53.204	49,795	14.948
71— 75	10	6.410	41.665	30,150	9.050
76— 80	8	5.128	35.255	11,100	3.332
81— 85	6	3.846	30.127	4,255	1.277
86— 90	4	2.564	26.281	6,225	1.869
91— 95	6	3.846	23.717	13,529	4.061
96— 100	7	4.487	19.871	8,200	2.461
... — ...					
106— 110	3	1.923	15.384	2,711	.814
111— 115	2	1.282	13.461	16,000	4.803
116— 120	3	1.923	12.179	2,400	.720
... — ...					
136— 140	1	.641	10.256	750	.225
141— 145	7	4.487	9.615	5,776	1.734
146— 150	2	1.282	5.128	800	.240
151— 155	1	.641	3.846	1,700	.510
156— 160	2	1.282	3.205	1,300	.390
... — ...					
166— 170	2	1.282	1.923	2,800	.841
... — ...					
176— 180	1	.641	.641	1,450	.435
Totals	156	100.000		$ 333,150	100.000

Total sale value	$333,150
Total assessed value	231,075
Average assessment ratio on value basis	69.29
Average assessment ratio on number basis	73.83
Percentage deviation on value basis	26.79
Percentage deviation on number basis	34.36

TABLE 121

LOGANSPORT, CASS COUNTY, INDIANA, 1928-1929

Properties Having Assessment Ratio of	Number of Properties	% of Total Number	Cumulated % of Total Number	Value of Properties	% of Total Value
26— 30	1	.794	100.000	$ 1,200	.266
31— 35	1	.794	99.206	2,400	.531
36— 40	8	6.349	98.412	18,600	4.115
41— 45	9	7.143	92.063	29,125	6.444
46— 50	5	3.968	84.920	13,100	2.898
51— 55	7	5.555	80.952	18,514	4.096
56— 60	10	7.936	75.397	59,600	13.186
61— 65	14	11.111	67.461	155,100	34.314
66— 70	11	8.730	56.350	26,075	5.769
71— 75	6	4.762	47.620	12,100	2.677
76— 80	8	6.349	42.858	35,370	7.825
81— 85	5	3.968	36.509	13,000	2.876
86— 90	7	5.555	32.541	17,500	3.872
91— 95	8	6.349	26.986	14,100	3.119
96— 100	4	3.175	20.637	6,140	1.358
101— 105	4	3.175	17.462	7,050	1.560
106— 110	5	3.968	14.287	7,450	1.648
111— 115	1	.794	10.319	2,600	.575
116— 120	5	3.968	9.525	5,365	1.187
121— 125	1	.794	5.557	950	.210
126— 130	1	.794	4.963	1,100	.243
131— 135	1	.794	3.969	2,100	.465
136— 140	1	.794	3.175	1,200	.266
... — ...					
146— 150	2	1.587	2.381	1,960	.434
... — ...					
166— 170	1	.794	.794	300	.066
Totals	126	100.000		$ 451,999	100.000

Total sale value	$451,999
Total assessed value	301,608
Average assessment ratio on value basis	67.16
Average assessment ratio on number basis	74.94
Percentage deviation on value basis	20.29
Percentage deviation on number basis	29.33

EXHIBIT A

LAND & IMPROVEMENT ASSESSMENTS

SECTION _____ TOWNSHIP _____ RANGE _____

DESCRIPTION	OWNER	ADDRESS	TOTAL ACRES	CLASS D AGRICULTURAL: 1ST CLASS (# / VALUE)	2ND CLASS (# / VALUE)	3RD CLASS (# / VALUE)	WILD HAY (# / VALUE)	MARSH CUTOVER & WASTE: WASTE (# / VALUE)	TOTAL LAND (# / VALUE)	IMPROVTS (#) / VALUE	CLASS E MARSH (# / VALUE)	CLASS E OVR P GOOD (# / VALUE)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

SECTION _____ TOWN _____ RANGE _____

	TOTAL ASSESSMENT: LAND	IMPROVEMENTS	LAND AND IMPROVEMENTS	CLASS A RESIDENTIAL MERC & MFG: RESIDENTIAL (# / VALUE)	MERCANTILE (# / VALUE)	MANUFACTS (# / VALUE)	TOTAL LAND (#) / VALUE	IMPROVEMENTS (#) / VALUE	CLASS F TIMBER: WOODS (# / VALUE)	SCRUB (# / VALUE)	TOTAL LAND (# / VALUE)	IMPROVEMENTS (#) / VALUE	CLASS G SWAMP: SOFT (# / VALUE)	HARD (# / VALUE)	WOODS (# / VALUE)
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample page from Cleasby Field Book recommended by the Wisconsin Tax Commission for use in appraising rural property

EXHIBIT B

1928 Tn. ☐ Vil. ☐ City ☐

28 Vol. _____ Page _____ Co. _____ Assmt. Dist. _____

Date Conv. _____ Date Rec. _____ Kind of Conv. _____

Grantor _____ NAME _____ ADDRESS

Grantee _____ NAME _____ ADDRESS

Notary _____ ADDRESS

DESCRIPTION	Sec. Lot	Town Block	Range Ward	Assm't.

1928 ASSESSMENT	CONSIDERATION
Land _____	Deed _____
Imp. _____	Ver'd. _____
Total _____	Cor'd. _____
Cor'd. _____	Est'd.C. _____
ACRES	Mtg.

CLASSIFICATION		USE	
Res. ☐	Agric. ☐		
Merc. ☐	Cut Over ☐		
Mfg. ☐	Timber ☐	REJECT	

Irregular Assmt. ☐	Land Contract ☐	Forced Sale ☐	Old Date ☐
Undivided Interest ☐	Mortgage ☐	Relatives Sale ☐	Title ☐
Personal Property ☐	Trade ☐	Sucker Sale ☐	☐

Filing card used by the Wisconsin Tax Commission for record of transfer of real property.

EXHIBIT C

Minnesota Tax Commission
Form No. 25

REAL ESTATE SALES FOR 1926-1927

_____ COUNTY _____ of _____

Vol.	Page	Date	Grantor	Grantee

SUBDIVISION	Section or lot	Township or Block	Range	Acres

Consideration	Amount of Revenue Stamps	1926 Assessment	Amount of Mortgages, if any, mentioned in deed
$_____	$_____	Total $_____	$_____

COUNTER—961

Filing card used by the Minnesota Tax Commission for record of transfer of real property.

EXHIBIT D

M. T. C. Form 54

Unplatted Real Property Assessment, 1928 — Township of Wilson — County of Clover, Minn.

Name of Owner: *Albert E. Long*

Description	*S½ of SE¼*	Sec. *1*	Twp. *30*	Range *20*	Acres *80*
	S½ of SW¼	Sec. *1*	Twp. *30*	Range *20*	Acres *80*

Acres Tillable *140* — CHARACTER OF LAND: Clay √ Loam √ Sandy ___ Stony ___ Level ___ Rolling √ Hilly ___

KIND AND VALUE OF LANDS

Cultivated	*100*	Acres at	*$90*	Per Acre	Value	$	*9,000*
Meadow	*30*	Acres at	*$75*	Per Acre	Value	$	*2,250*
Pasture	*25*	Acres at	*$60*	Per Acre	Value	$	*1,500*
Swamp		Acres at		Per Acre	Value	$	
Timber		Acres at		Per Acre	Value	$	
Cut-over		Acres at		Per Acre	Value	$	
Waste	*5*	Acres at	*$10*	Per Acre	Value	$	*50*
		True and Full Value Land				$	*12,800*

STRUCTURES:

DWELLING: CONSTRUCTION: Frame, √ Brick, Stone, Stucco. BASEMENT: Full, Half, √ None. ROOF: Wood Shingles, √ Asbestos, Composition. HEAT: Hot Air, √ Hot Water, Stoves. Number of Rooms *7* Stories *2*

CONDITION: Good, Fair, √ Poor — Value $ *1,800*

Barn:	CONDITION: Good,	Fair, √	Poor	Value	$	*1,000*
Granary:	CONDITION: Good, √	Fair,	Poor	Value	$	*150*
Garage:	CONDITION: Good,	Fair, √	Poor	Value	$	*100*
Machine Sheds:	CONDITION: Good,	Fair,	Poor	Value	$	
Hog House	CONDITION: Good,	Fair, √	Poor	Value	$	*100*
Silo:	CONDITION: Good,	Fair, √	Poor	Value	$	*200*
Windmill:	CONDITION: Good,	Fair,	Poor	Value	$	
Other Structures:				Value	$	
Machinery permanently attached to real estate				Value	$	*50*
					$	*3,400*

True and Full Value Lands	$ *12,800*
True and Full Value Structures, including attached machinery	$ *3,400*
True and Full Value Land and Structures, including attached machinery	$ *16,200*
Assessed Value	$ *5,400*

Filing card recommended by the Minnesota Tax Commission for detailed record of information covering rural land and improvements.

EXHIBIT E

DIVISION OR ADDITION ..... LOT NO. ..... BLK. NO. .....

FILE NO. .....

OWNER .....

ASSESSMENTS

ASS'D BY	1910			1912			1914			1916		
	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL
ASS'R												
C. B.												
Co. B.												
T. C.												
MEMO.												

ASS'D BY	1918			1920			1922			1924		
	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL
ASS'R												
C. B.												
Co. B.												
T. C.												
MEMO.												

ASS'D BY	1926			1928			1930			1932		
	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL	LAND	BLDGS.	TOTAL
ASS'R												
C. B.												
Co. B.												
T. C.												
MEMO.												

REFERENCE:—

Filing card (front side) used in Duluth, Minnesota, for recording of assessment history and detailed data for use in appraisal of urban real property.

EXHIBIT F

BUILDING REPORTS

	1	2	3
Permit No. and Am.			
Purpose Used			
Material			
Size and No. Stories			
Additions			
Additions			
Foundation			
Roof			
Chimneys			
Bay Windows			
Dormer Windows			
Finish Down			
Finish Up			
Floors Down			
Floors Up			
Heat			
Light			
Plumbing			
Mantel			
Basement			
Special Features			
When Built			
Condition			
Owner or Agent			
Approx. Dep.			
Class and Rate			
Valuation			
Date Examined			
Examined by			
Assessment by			

SALES

Water Sewer Gas

Moved to Moved from

Remarks:

Filing card (reverse side) used in Duluth, Minnesota, for recording of assessment history and detailed data for use in appraisal of urban real property.

EXHIBIT G

Taxing District Card No.

Dist. Map Block

Book No. Page Line
Listed for taxes in name of

19

Sub Orig. Lot

Sub Lot

Feet Front Street

Depth Acres House No.

Assessments	19	19	19
Land			
Bldgs.			
Totals			

Instructions: Sketch odd shaped lots. Use square for others. Lower plan north end of lot toward top of card. Show unit values outside and lot measurements inside lot lines. Indicate corner influence and alley widths.

Feet Front	Feet Deep	% of Actual Unit	% for Triangle	% of C. I. Less Than $200	Actual Unit	Totals	

Written by Valued by Checked by

AR. 59-25M 2220-29

Filing card used in Cleveland, Ohio, for recording information relative to assessment of urban sites.

EXHIBIT H

Tax District ..... Vol. ..... Page .....

Owner ..... S. ....

Number ..... St.

Kind of Building .....

Schedule	Class	Base Factor	Add or Deduct For Area	
Stories	Dimensions	Area	Actual Factor	Totals
	X			
	X			
	X			
	X			

Description of Building	Add	Deduct	
Foundation			
Ext. Walls			
Roof			
Dormers			
Bays			
Outside Chimney			
Porches			
Basement			
Attic			
Plumbing			
Heating			
Finish			
Cabinets			
Mantels			
Tile Floors			
Total Additions and Deductions			
Net Addition or Deduction			
REPRODUCTION VALUE			
Age ..... yrs. Depreciation ..... %			
NET VALUE			
..... Car Garage Walls			
Roof ..... Floor ..... Value			
TOTAL BLDG. VALUE			

Remarks .....

Original Record ..... Appraised ..... 193..

File No. ..... Year ..... By .....

ANA ST 1436 (10) 48

Filing card used in Cleveland, Ohio, for recording information relative to assessment of urban residences.

EXHIBIT I

OFFICE OF THE AUDITOR OF CUYAHOGA COUNTY, OHIO
ASSESSING DEPARTMENT
ROOM 159 NEW COURT HOUSE

AFFIDAVIT OF COST OF BUILDING

(Must be signed by an officer of the Company)

_____, being _____ of

The _____ Company, and first duly sworn, deposes and says

that the total cost of the _____ story _____ building at

_____ was $_____, itemized as follows:

WORK	CONTRACTOR	AMOUNT
General contract (This contract includes items checked thus: √)		
Excavating		
Masonry		
Cement work		
Re-enforced concrete		
Steel and iron		
Carpentry		
Roofing		
Heating and ventilating		
Plumbing and sewering		
Lathing and plastering		
Painting and finishing		
Electric wiring		
Sheet metal		
Steel sash and glazing		
Marble and tile		
Hardware		
Lighting fixtures		
Sprinkling system		
Elevators		
Cranes and runways		
Power boilers and piping		
Furnaces and ovens		
Shafting		
Other fixed equipment		
Architect's fees		

OTHER COSTS Kind	Amount
Carrying charges pending construction:	
Kind:	
Maintenance	
Rental	
Interest	
Total Cost	

The above work was done on

General contract basis _____

Separate contract basis _____

Cost plus percentage _____

Direct labor _____

The above items include all labor, materials and extras in the construction of said building and represent all expenses incurred therein. All contracts and check books proving said figures are available at your call. The names of the contractors are given, whom you may interrogate and who are hereby authorized and requested to fully inform you in the matter.

(Signed) _____

For The _____ Company

Sworn to before me and subscribed in my presence this _____ day of _____, 19___

_____

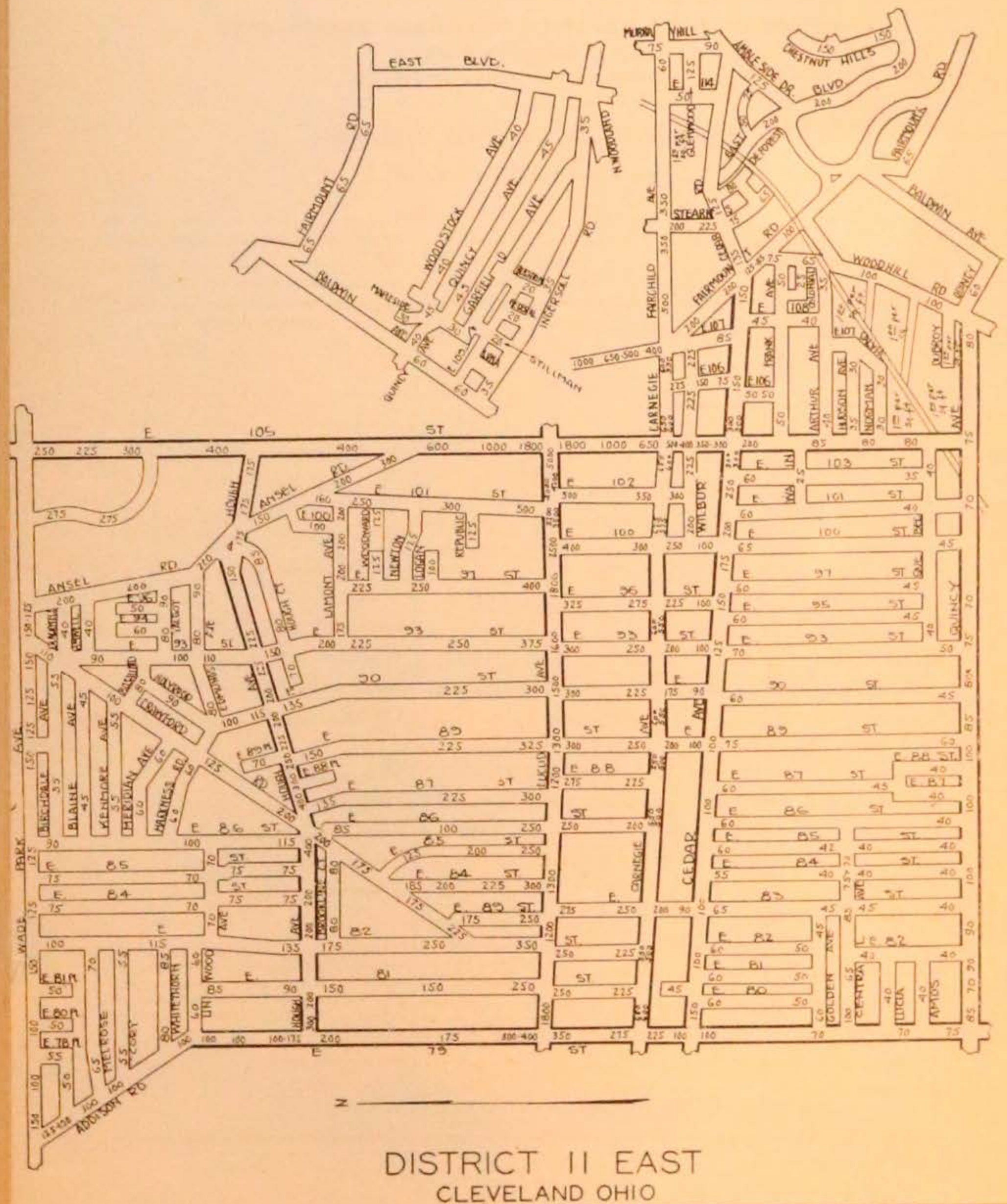
_____

(Do not use the following)

Building Permit No.	Date of Permit	Cubage	Factor	Cost	Assessed Value
_____	_____, 19___	_____ Ft.	$_____	$_____	$_____

Form of affidavit to be submitted to Auditor of Cuyahoga County, Ohio, by construction company following completion of new structure within that district.

EXHIBIT J



DISTRICT II EAST
CLEVELAND OHIO

CORNER LOT PERCENTAGE TABLE
FOR DEPTH OF SIDE STREET WHICH IS THE FRONTAGE ON THE MAIN STREET

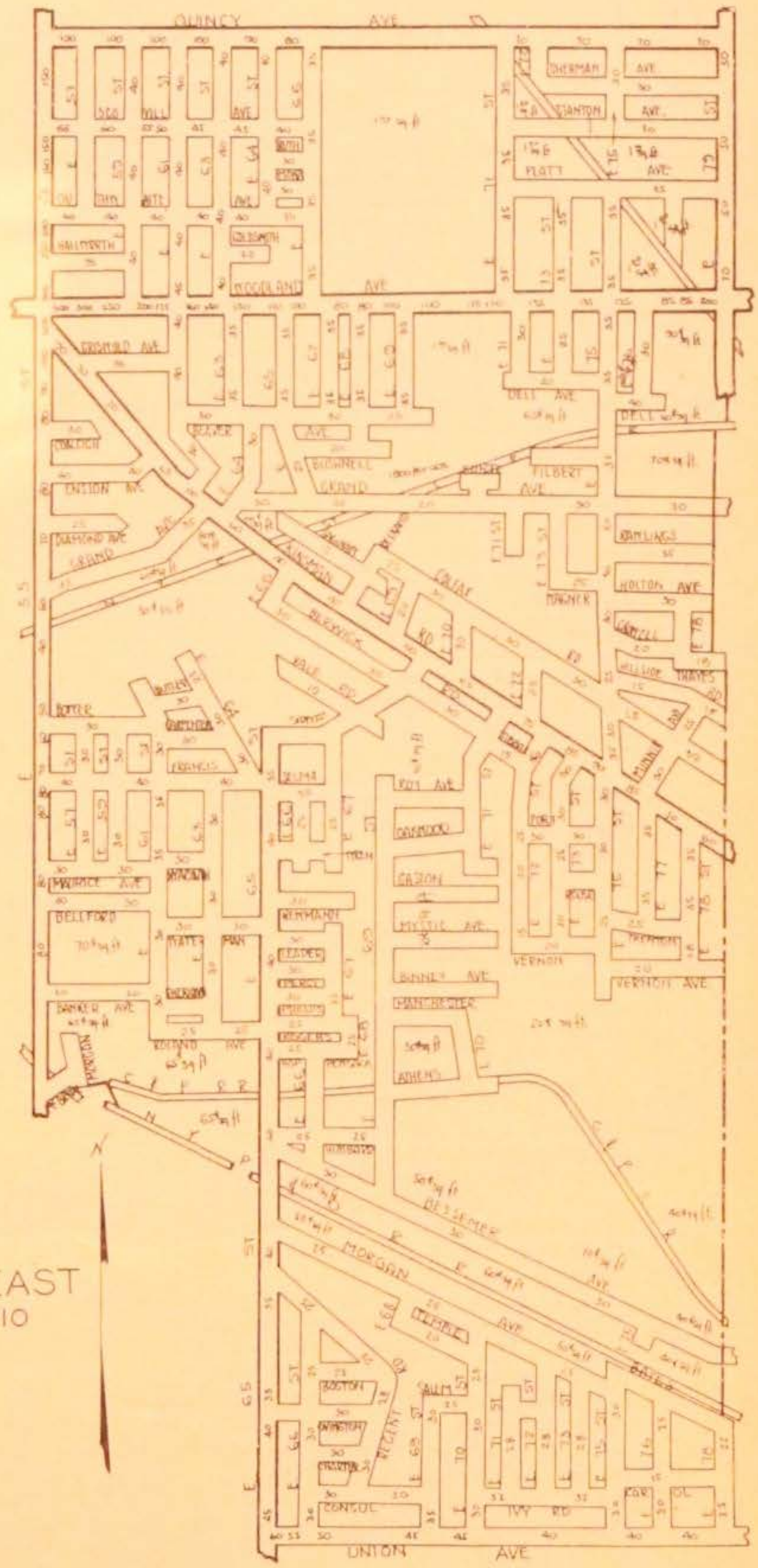
FEET	%	FEET	%	FEET	%	FEET	%
5	15.0	30	51.0	55	64.5	80	70.0
10	25.0	35	55.0	60	66.0	85	70.5
15	33.0	40	58.0	65	67.0	90	71.0
20	40.0	45	60.7	70	68.0	95	71.5
25	46.0	50	63.0	75	69.0	100	72.0

DEPTH TABLE

DEPTH	%	DEPTH	%	DEPTH	%	DEPTH	%	DEPTH	%
5FT	14.35	55FT	76.20	105FT	102.08	155FT	115.95	205FT	122.50
10	25.00	60	79.50	110	104.00	160	116.80	210	122.95
15	33.22	65	82.61	115	105.76	165	117.64	215	123.38
20	41.00	70	85.60	120	107.50	170	118.40	220	123.80
25	47.90	75	88.30	125	109.05	175	119.14	230	124.60
30	54.00	80	90.90	130	110.50	180	119.80	240	125.35
35	59.20	85	93.33	135	111.80	185	120.43	250	126.05
40	64.00	90	95.60	140	113.00	190	121.00		
45	68.45	95	97.65	145	114.05	195	121.53		
50	72.50	100	100.00	150	115.00	200	122.00		

Sample sheet from Assessment Map Book furnished to taxpayers by Auditor of Cuyahoga County, Ohio, following completion of 1924 assessment.

EXHIBIT K



DISTRICT 12 EAST
CLEVELAND OHIO

Sample sheet from Assessment Book furnished to taxpayers by Auditor of Cuyahoga County, Ohio, following completion of 1924 assessment.

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